Final

2010 Urban Water Management Plan

for the

Southern Division - Ventura County District

Prepared for:

CALIFORNIA
AMERICAN WATER

Prepared Under the Responsible Charge of:

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California R.C.E. No. 63004, Expires 6/30/2012

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WSC
WATER SYSTEMS CONSULTING, INC.

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LIST OF ACRONYMS AND ABBREVIATIONS

afy	acre feet per year
AWAVC	Association of Water Agencies Ventura County
AWWA	American Water Works Association
BMP	Best Management Practice
HCF	Hundred Cubic Feet
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Information System
CMWD	Calleguas Mutual Water District
CPS	Comprehensive Planning Study
CPUC	California Public Utilities Commission
CRA	Colorado River Aqueduct
CUWCC	California Urban Water Conservation Council
District	California American Water - Ventura County District
DMM	Demand Management Measure
DWR	California Department of Water Resources
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
ETo	Evapotranspiration
GHG	Greenhouse Gas
GIS	Geographic Information Systems
gpcd	gallons per capita per day
HECW	High Efficiency Clothes Washer
HET	High Efficiency Toilets
HEU	High Efficiency Urinals
IOU	Investor Owned Utility
IRWMP	Integrated Regional Water Management Plan
kWh	kilowatt-hour
LL	Large Landscape
MG	Million Gallons
MOU	Memorandum of Understanding
MWD	Metropolitan Water District of Southern California
NRW	Non-Revenue Water
PV	Photovoltaic
SB7	Senate Bill x7-7
SB7 Guidebook	the California Department of Water Resources' *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*
SCAG	Southern California Association of Governments
SDP	Seawater Desalination Program
SMP	Salinity Management Pipeline
SWP	State Water Project
ULFT	Ultra Low Flow Toilets
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
UWMP Guidebook	the California Department of Water Resources' *Guidebook to Assist Water*

	Suppliers in the Preparation of a 2010 Urban Water Management Plan
WBIC	Weather Based Irrigation Controllers
WCVC	Watersheds Coalition of Ventura County
WD	Water District
WRAM	Water Revenue Accounting Mechanism
WSA	Water Supply Assessment
WSS	Water Sense Specifications

1 PLAN PREPARATION

This plan comprises the 2010 Urban Water Management Plan (UWMP) for California-American Water Company's (California American Water's) Southern Division Ventura County District (District), as required by the California Urban Water Management Planning Act (UWMP Act). The UWMP Act requires all urban water suppliers with more than 3,000 connections or distributing more than 3,000 acre feet per year (afy) to complete an UWMP every five years ending in '5' and '0'. The UWMP Act is administered by the California Department of Water Resources (DWR), who is responsible for compiling data for statewide and regional analysis, and publishing the accepted documents online for public access.

The UWMP is a valuable planning document used for multiple purposes:

- Meets a statutory requirement of the California Water Code
- Provides a key source of information for Water Supply Assessments (WSAs) and Written Verifications of Water Supply
- Supports regional long-range planning documents including City and County General Plans
- Provides a standardized methodology for water utilities to assess their water resource needs and availability
- Serves as a critical component of developing Integrated Regional Water Management Plans (IRWMPs)
- Provides a resource for regional involvement in the California Water Plan

California American Water is a privately owned public utility providing water services to over 630,000 people in 50 communities throughout California. California American Water is organized into three divisions: Northern, Central and Southern. The Northern Division includes the Sacramento and Larkfield Districts, the Central Division includes the Monterey District, and the Southern Division includes the Ventura County, Los Angeles County and San Diego County Districts.

The Ventura County District in California American Water's Southern Division includes two service areas, the Thousand Oaks and Las Posas service areas, which together exceed the 3,000 afy/ 3,000 connections threshold. The District prepared the Ventura District 2005 UWMP and submitted it to DWR in April 2006. The plan was subsequently revised and re-submitted in June 2009. DWR deemed the 2005 Ventura District UWMP complete on December 9, 2010.

This plan was prepared based on guidance from DWR's *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan* (UWMP Guidebook) (1), DWR Urban Water Management Plans Public Workshops and Webinars, DWR Senate Bill x 7-7 (SB7) public listening sessions, *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (SB7 Guidebook) (2), and the 2010 DWR Review Sheet Checklist (Appendix B).

The 2010 UWMPs must be adopted by the water purveyors by July 1, 2011 and submitted to DWR by July 31, 2011. Usually, UWMPs are due on December 31 of years ending in '0' and '5', but a six month extension has been granted for submittal of the 2010 UWMPs to provide additional time for water suppliers to address SB7 requirements (20% reduction in per capita demand by 2020). The final 2010 UWMP Guidebook became available on March 2, 2011. DWR's 2010 UWMP schedule is summarized in Table 1-1.

Table 1-1. DWR's 2010 UWMP Schedule

Date	Event/Task
November 2010	Initial workshops
December 21, 2010	Draft Guidebook released
March 2011	Amended Final Guidebook released
January/February 2011	Additional workshops
July 1, 2011	Adoption of UWMPs by water purveyors
July 31, 2011	UWMPs due to DWR

According to the 2010 Guidebook, "As a general rule, DWR reviewers will consider a plan complete if it meets the criteria listed in the Review Sheets" (1). A DWR Review Sheet checklist is provided in Appendix B. Table 1-2 summarizes changes to the UWMP Act since 2005 that have been addressed in this UWMP.

Table 1-2. Summary of Changes in the UWMP Act Since 2005

Change	New/ Revised Water Code Section Number	Summary of Changes	UWMP Approach
Notification	10621(b)	*Added*: Provide at least 60 days notification to any city or county within which the supplier provides water for the public hearing required by Section 10642.	The Cities and County within the District's service areas will be notified in a timely manner to meet the requirement.
DMM Compliance	10631(j)	*Changed*: Members of the CUWCC will be considered in compliance with the DMM evaluation (10631 (f) and (g)) if they comply with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008 and by submitting their CUWCC annual reports.	California American Water is a member of the CUWCC and is not expected to be in full compliance with the CUWCC MOU. However, the 2009-2010 CUWCC BMP Annual Report is attached in Appendix C.

Change	New/ Revised Water Code Section Number	Summary of Changes	UWMP Approach
Wholesale Suppliers Source Water	10631(j)	*Deleted:* Text identifying the specific types of water an urban water supplier may seek information from a wholesaler supplier. The option to seek information from a wholesale supplier is not deleted, just the identification of source water types.	No impact to this UWMP.
Lower Income housing water use projections	10631.1	*Added:* Water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households (Health and Safety Code Section 50079.5) will be provided. These water use projections are to assist a supplier in complying with Government Code Section 65589.7 to grant priority of the provision of service to housing units affordable to lower income households.	Values are estimated based on California American Water customer data and the Southern California Association of Government's Regional Housing Needs Assessment (See Section 3.2.1)
Linkage of DMM to State grant or loan program	10631.5(a)	*Changed:* After January 1, 2009, eligibility for state-funded grants or loans will be conditioned on the implementation of Section 10631 DMMs. If a DMM is not currently being implemented, then the urban water supplier submits to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement. If a DMM is not locally cost-effective (the present value of the local benefits is less than the present value of local costs to implement the DMM), then the water supplier will submit supporting documentation and the DWR will provide a determination within 120 days of UWMP submittal.	No impact to this UWMP.
DMM Compliance	10631.5(b)	*Added:* DWR will consult with other agencies and public input and develop eligibility requirements for meeting compliance with DMM implementation. Determination of DMM compliance will be based on an individual water agencies implementation or participation with a regional group. An individual water agency will not be denied eligibility if another participating regional agency does not comply with each of the DMMs	No impact to this UWMP.
Determination of Grant and Loan Eligibility	10631.5(c)	*Added:* Grant and loan eligibility, based on DMM compliance, will be included in the funding guidelines.	No impact to this UWMP.

Change	New/ Revised Water Code Section Number	Summary of Changes	UWMP Approach
	10631.5(d)	*Added:* The administering agency will request and eligibility determination from DWR regarding "the requirements of this section". DWR will respond within 60 days.	No impact to this UWMP.
	10631.5(e)	*Added:* The water supplier may submit copies of its annual reports and other relevant documents to assist DWR in determining implementation or scheduling of the water suppliers DMMs. Water suppliers that are signatories of the CUWCC MOU may submit its annual reports to support its DMM activities.	California American Water will submit its CUWCC BMP 2009-2010 activity report.
	10631.5(f)	*Added:* "This section" is in effect only until July 1, 2016, after which it is repealed, unless another statute is enacted.	No impact to this UWMP.
New DMM Independent Technical Panel	10631.7	*Added:* DWR, with the CUWCC, will convene a technical panel to provide information and recommendations to DWR and the Legislature on new DMMs, technologies, and approaches. There is further language on the panel members and timing.	No impact to this UWMP.
Potential Recycled Water Uses	10633(d)	*Added:* Indirect potable reuse is to be considered as an option for a potential use of recycled water.	No impact to this UWMP.
UWMP Distribution	10644(a)	*Added:* A copy of the UWMP will also be submitted to the California State Library no later than 30 days after its adoption	California American Water will submit a copy of its adopted UWMP to the California State Library to meet this requirement.
Exemplary UWMP Elements	10644(b)	*Added:* 'Exemplary' elements of individual plans are to be identified in the 2011 Legislative Report	No impact to this UWMP.
Exemplary UWMP	10644(c)	*Added:* (1), (2), and (3). Clarifying that "exemplary" DMMs are those that achieve water saving significantly above the levels established by DWR to meet the requirements of 10631.7. The results are to be distributed to the panel convened pursuant to Section 10631.7 and the public.	No impact to this UWMP.
Retail Deadline	144644(j)(1)	*Added:* An urban retail water supplier is granted an extension to July 1, 2011, for adoption of an urban water management plan.	California American Water will make its best effort to adopt the plan in a timely manner.

Change	New/ Revised Water Code Section Number	Summary of Changes	UWMP Approach
Wholesaler Deadline	144644(j)(2)	*Added:* An urban wholesale water supplier whose urban water management plan . . .is granted an extension to July 1, 2011, to permit coordination between an urban wholesale water supplier and urban retail water suppliers.	No impact to this UWMP.
	10657	*Deleted.*	No impact to this UWMP.

1.1 COORDINATION

To prepare this UWMP, California American Water coordinated with multiple neighboring and stakeholder agencies. The coordination efforts were conducted to: 1) inform the agencies of California American Water activities; 2) gather high quality data for use in developing this UWMP; and 3) coordinate planning activities with other related regional plans and initiatives. The coordination activities conducted by California American Water are summarized in Table 1-3.

Table 1-3. Agency Coordination

Agency / Organization	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan[1]	Was sent a notice of intention to adopt
California Department of Water Resources (DWR)				X		
Calleguas Municipal Water District (CMWD)				X	X	X
City of Camarillo						X
City of Thousand Oaks			X	X	X	X
County of Ventura				X	X	X
Metropolitan Water District (MWD)				X		
Southern California Association of Governments (SCAG)				X		

[1] Sent an electronic copy of the draft plan.

1.2 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

To fulfill the requirements of Water Code Section 10621(c), California American Water sent letters of notification of preparation of the 2010 UWMP to all cities and counties within the District's service areas 60 days prior to the public hearing. Copies of the 60 day notification letters are attached as Appendix D.

To fulfill the requirements of Water Code Section 10642 of the UWMP Act, California American Water made the draft 2010 UWMP available for public review and held a public hearing on August 17, 2011. The public review hearing was noticed on August 3, 2011 and the hearing notice is attached as Appendix E. In addition, California American Water maintained a copy of the draft UWMP in its office prior to the public hearing.

The Final 2010 Southern Division Ventura County District UWMP was formally adopted by California American Water on January 9, 2012. A copy of the Adoption Resolution is included in Appendix F. A copy of the Final 2010 Southern Division Ventura County District UWMP was sent to the California State Library, DWR, and all cities and counties within the District's service area within 30 days of adoption. California American Water made the 2010 UWMP available for public review in its offices during normal hours prior to the public hearing.

The implementation of this plan shall be carried out as described unless significant changes occur between the adoption of this plan and the 2015 plan. If such significant changes do occur, California American Water will amend and readopt the plan as required by the California Water Code. For more information on implementation of specific sections of this plan see Sections 1.2.1 and 1.2.2.

1.2.1 Implementation of the Recycled Water Plan

The District currently does not have plans to develop a recycled water system within its service area due to geographic an economic limitations. However, the District will continue evaluate potential recycled water opportunities within its service area.

1.2.2 Implementation of the DMMs and BMPs

California American Water is a member of the California Urban Water Conservation Council (CUWCC) and is a signatory to the CUWCC Memorandum of Understanding (CUWCC MOU). The CUWCC MOU outlines 14 Best Management Practices (BMPs) that correspond with the 14 Demand Management Measures (DMM) outlined in the UWMP Act. The UWMP Act allows CUWCC members to submit their CUWCC BMP reports in lieu of completing a DMM section if the member is in full compliance with the BMPs. Since California American Water is not in full compliance with the CUWCC BMPs, a DMM section is required. In the previous UWMP both a DMM section and BMP report were included. This plan contains a DMM section (see Section 6) and BMP report (see Appendix C) as well.

The evaluation of BMPs provides guidance for internal development of California American Water's conservation programs and is used as testimony and support documentation for rate cases required by the CPUC. California American Water is working towards achieving full compliance with the CUWCC BMPs. Therefore, the BMP report is attached in Appendix C. The BMPs listed in the previous UWMP are being implemented as planned or exceed the planned implementation. The implementation of any of the described programs and costs are contingent on the CPUC approval of programs and their budget funding, as well as incorporation in the American Water Business Plan.

2 SYSTEM DESCRIPTION

California American Water is a privately owned public utility providing water services to over 630,000 people in 50 communities throughout California. California American Water is a wholly-owned subsidiary of the American Water Works Company (American Water), one of the largest investor-owned water and wastewater utility companies in the United States. American Water is headquartered in Voorhees, New Jersey, and California American Water is headquartered in Coronado, CA. California American Water was incorporated into American Water under California law in 1966 when American Water acquired California Water and Telephone.

California American Water is operated by three Division Offices: the Northern Division; Central Division; and Southern Division. The Southern Division includes the Ventura County, Los Angeles County, and San Diego districts. This UWMP covers the Ventura County District and the two service areas it contains: Thousand Oaks and Las Posas. Combined the two service areas exceed 3,000 customers and deliver 3,000 afy or more. Figure 2-1 shows the service areas covered in this UWMP. Each of California American Water's individual systems within the Ventura County District is registered with separate operating permits with the California Department of Public Health (CDPH).

California American Water is an investor owned utility (IOU) regulated by the California Public Utility Commission (CPUC). Therefore, its facilities, operations and financial structure (including customer rates) are subject to extensive regulation by the CPUC, as well as environmental, health, safety and water quality regulations by federal, state and local governments. The CPUC sets rules and regulates public utility companies in California. The intent of the regulations set by the CPUC is to ensure provision of high quality water service at a fair price. All increases in service rates are directly related to the cost of providing quality service and are subjected to a public review process and approval by the CPUC.

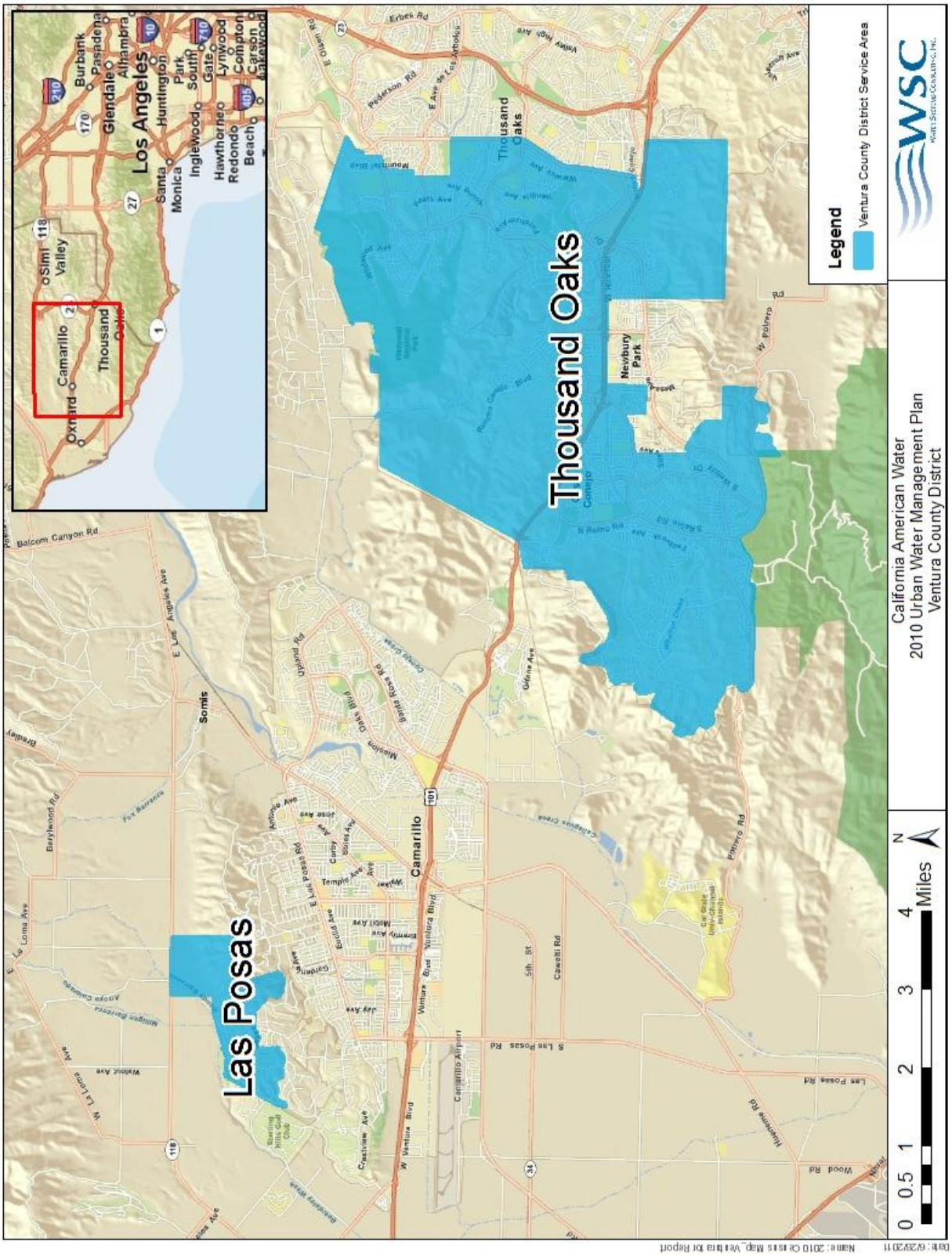

Figure 2-1. Ventura County District's Service Area

2.1 SERVICE AREA PHYSICAL DESCRIPTION

The District covers approximately one half of the City of Thousand Oaks and portions of unincorporated Ventura County. The District consists of two separate water systems: Thousand Oaks (25 square miles); and Las Posas (1.6 square miles). The total service area covers approximately 26.6 square miles and is located within southern Ventura County along highway 101, northeast of Los Angeles. Figure 2-1 shows the location of the District and its service areas.

2.1.1 Climate

Ventura County's climate is characterized as Mediterranean with cool wet winters, and hot dry summers. The wet season is generally October through April. The average annual temperature is 60.5 degrees Fahrenheit, and the average annual rainfall is 14.7 inches. Table 2-1 and Table 2-2 summarize temperature, rainfall and evapotranspiration data for the District.

Table 2-1. Precipitation and Evapotranspiration in Ventura County

	January	February	March	April	May	June
Standard Average ETo, in[1]	1.83	2.2	3.42	4.49	5.25	5.67
Average Rainfall, in[2]	3.34	3.35	2.49	1.03	0.17	0.05
Average Temperature, °F[2]	54.9	55.8	56.4	58.2	60.4	63.1

[1]Data from California Irrigation Management Information System (CIMIS), Station 152 in Camarillo, (period of record is from January 2000 through December 2010) http://wwwcimis.water.ca.gov/cimis/data.jsp

[2]Data from Western Regional Climate Center, Station: Oxnard 1948-2002, http://www.wrcc.dri.edu/CLIMATEDATA.html

Table 2-2. Precipitation and Evapotranspiration in Ventura County

	July	August	Sept.	Oct.	Nov.	Dec.	Annual
Standard Average ETo, in[1]	5.86	5.61	4.49	3.42	2.36	1.83	46.43
Average Rainfall, in[2]	0.02	0.05	0.23	0.29	1.64	2.11	14.77
Average Temperature, °F[2]	66	66.9	66.2	63.7	59.4	55.6	60.5

[1]Data from California Irrigation Management Information System (CIMIS), Station 152 in Camarillo, (period of record is from January 2000 through December 2010) http://wwwcimis.water.ca.gov/cimis/data.jsp

[2]Data from Western Regional Climate Center, Station: Oxnard 1948-2002, http://www.wrcc.dri.edu/CLIMATEDATA.html

2.2 SERVICE AREA POPULATION

The District's service area population was estimated to be 62,144 in 2010, based on the 2010 census. The service area is largely built out and population growth estimates are anticipated to be slow and stable. Using data obtained from the Southern California Association of Governments (SCAG), the annual population growth for the District will be less than 1% through 2030, as shown in Table 2-3 (3).

Table 2-3. District's Projected Annual Compounding Growth Rates (3)

	2010-2015	2016-2020	2021-2025	2026-2030
Growth Rates[1]	0.21%	0.20%	0.20%	0.20%

[1] Growth rates were calculated from SCAG population projection data.

Table 2-4 and Figure 2-2 show the historical, current, and projected populations for the District. The population estimates and projections were developed using: the District's service area boundaries; 1990, 2000, and 2010 census data; and SCAG's population projections. Appendix G provides additional detail regarding the methodology used to establish population estimates and projections.

Table 2-4. Population Historical, Current, & Projected[1]

	2005	2010	2015	2020	2025	2030
Ventura	58,997	62,144	62,799	63,433	64,073	64,719

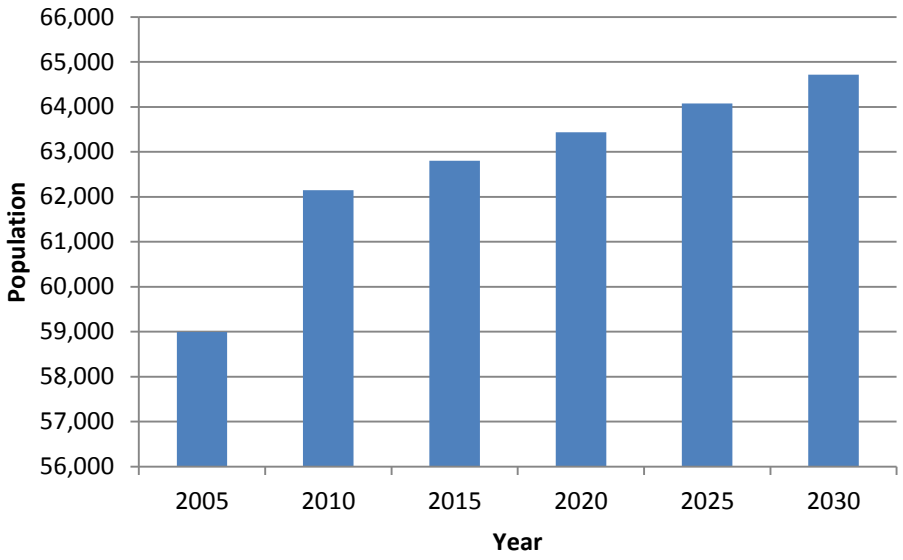

Figure 2-2. Historical, Current, and Projected Population for the District[1]

[1] The population projections for California American Water's service areas are based on 2000 and 2010 census data and growth rates from SCAG's most recent census tract population projections. Appendix G provides additional detail regarding the methodology used to establish population projections.

3 SYSTEM DEMANDS

The methodology for developing demand projections is included in Appendix G. Projections incorporate ongoing and future water conservation efforts to reflect a reduced per capita usage as required by SB7. Appendix A describes the methodology used to develop the SB7 baseline and targets in detail.

3.1 BASELINE AND TARGETS

The calculation of SB7 baseline and target per capita water use is discussed in detail in Appendix G. Table 3-1 shows the baseline, compliance, interim target, and target daily per capita water use for the District expressed in gallons per capita per day (gpcd). Figure 3-1 displays the baseline and targets as well as historical and projected per capita water use.

Table 3-1. Baseline, Compliance, Interim Target, and Target Per Capita Water Use

Parameter	Water Use (gpcd)
Baseline Per Capita Water Use	289
2010 Per Capita Water Use	218
2015 Interim Urban Water Use Target	262
2020 Urban Water Use Target	234

Since 2008, the District's per capita water use has been declining. As shown in Table 3-1, the City's per capita water use in 2010 was already below the 2020 target. The steady decline in per capita water use from 2008 through 2010 is attributed to a combination of transitory factors such as the weak economy, hydrologic conditions, and structural changes in customer demand patterns associated with effective conservation programs. For the purposes of projecting District-wide water use, the 2011 per capita water use is assumed to match the 5-year historical average (2006-2010). The per capita water use between 2011 and 2015 is linearly interpolated to meet the 2015 interim target. The per capita water use between 2015 and 2020 is linearly interpolated to meet the 2020 target. Figure 3-1 displays the baseline and targets as well as historical and projected per capita water use.

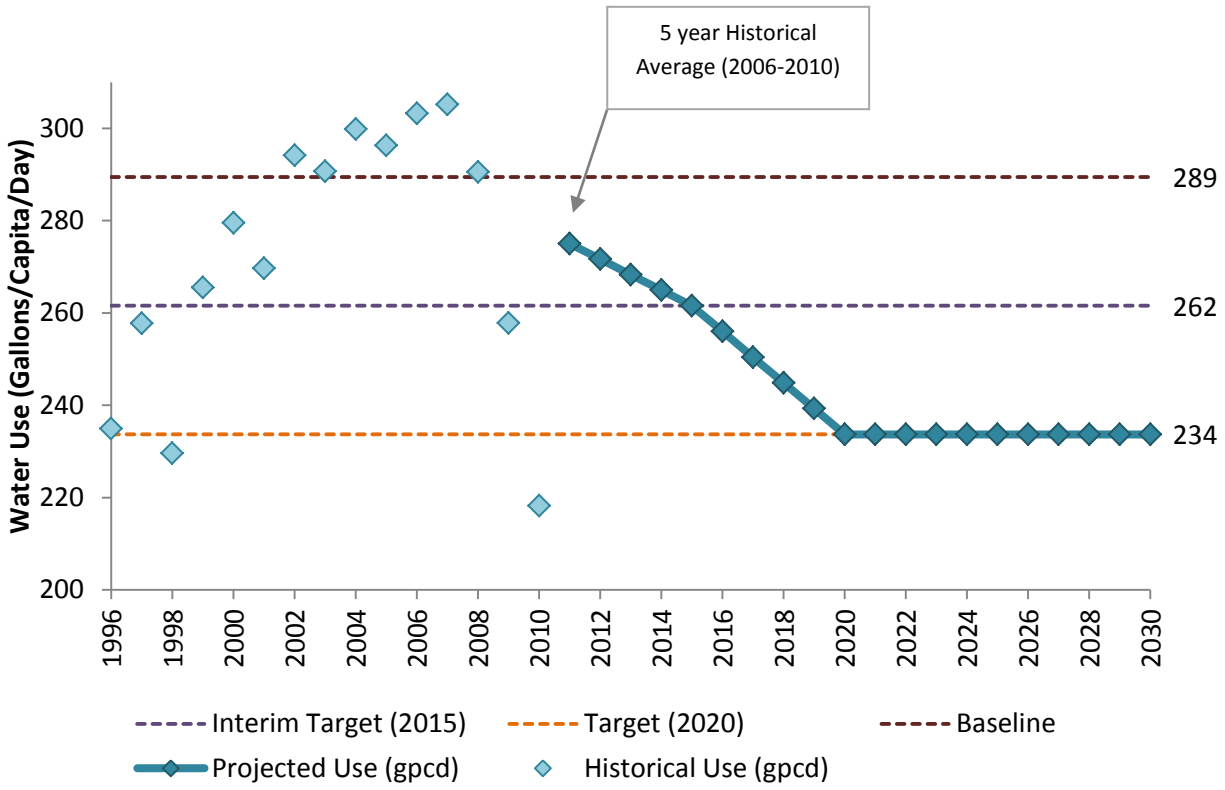

Figure 3-1. Per Capita Water Use – Historical, Baseline, Projected, and Targets

3.2 WATER DEMANDS

The following tables show the past, current and projected demands. The methodology for demand projections is outlined in Appendix G. Figure 3-2 shows the past, current and projected water deliveries for the District.

Table 3-2. District's 2005 Deliveries, afy

	2005[1]				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	19,471	11,824	-	-	11,824
Multi-family	105	515	-	-	515
Commercial	631	1,414	-	-	1,414
Industrial	146	1,566	-	-	1,566
Institutional/ governmental	96	817	-	-	817
Landscape	328	1,603	-	-	1,603
Agriculture	-	-	-	-	-
Other[2]	6	-	-	-	-
Total	**20,783**	**17,740**	**-**	**-**	**17,740**

[1] 2005 connections and delivery data were derived from the District's customer database and 2005 MD Operating Report. This methodology is described in Appendix G.
[2] Contains public and private fire service connections

Table 3-3. District's 2010 Deliveries, afy

	2010[1]				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	19,129	9,438	-	-	9,438
Multi-family	210	611	-	-	611
Commercial	753	1,176	-	-	1,176
Industrial	178	1,415	-	-	1,415
Institutional/ governmental	191	892	-	-	892
Landscape	359	1,320	-	-	1,320
Agriculture	-	-	-	-	-
Other[2]	8	0	-	-	0
Total	**20,827**	**14,852**	**-**	**-**	**14,852**

[1] 2010 connections and delivery data were derived from the District's customer database and 2010 MD Operating Report. This methodology is described in Appendix G.
[2] Contains public and private fire service connections

Table 3-4. District's 2015 Deliveries, afy

	2015				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	19,330	11,322	0	0	11,322
Multi-family	212	733	0	0	733
Commercial	761	1,411	0	0	1,411
Industrial	179	1,697	0	0	1,697
Institutional/ governmental	193	1,070	0	0	1,070
Landscape	362	1,583	0	0	1,583
Agriculture	0	0	0	0	0
Other	8	0	0	0	0
Total	**21,046**	**17,816**	**0**	**0**	**17,816**

Table 3-5. District's 2020 Deliveries, afy

	2020				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	19,526	10,181	0	0	10,181
Multi-family	214	659	0	0	659
Commercial	768	1,269	0	0	1,269
Industrial	181	1,526	0	0	1,526
Institutional/ governmental	195	962	0	0	962
Landscape	366	1,424	0	0	1,424
Agriculture	0	0	0	0	0
Other	8	0	0	0	0
Total	**21,259**	**16,021**	**0**	**0**	**16,021**

Table 3-6. District's 2025 & 2030 Deliveries, afy

	2025		2030	
	Metered		Metered	
Water use sectors	# of Connections	Volume	# of Connections	Volume
Single family	19,722	10,288	19,921	10,395
Multi-family	217	666	219	673
Commercial	776	1,282	784	1,295
Industrial	183	1,542	185	1,559
Institutional/ governmental	197	972	199	982
Landscape	370	1,439	374	1,454
Agriculture	0	0	0	0
Other	8	0	8	0
Total	**21,473**	**16,189**	**21,690**	**16,358**

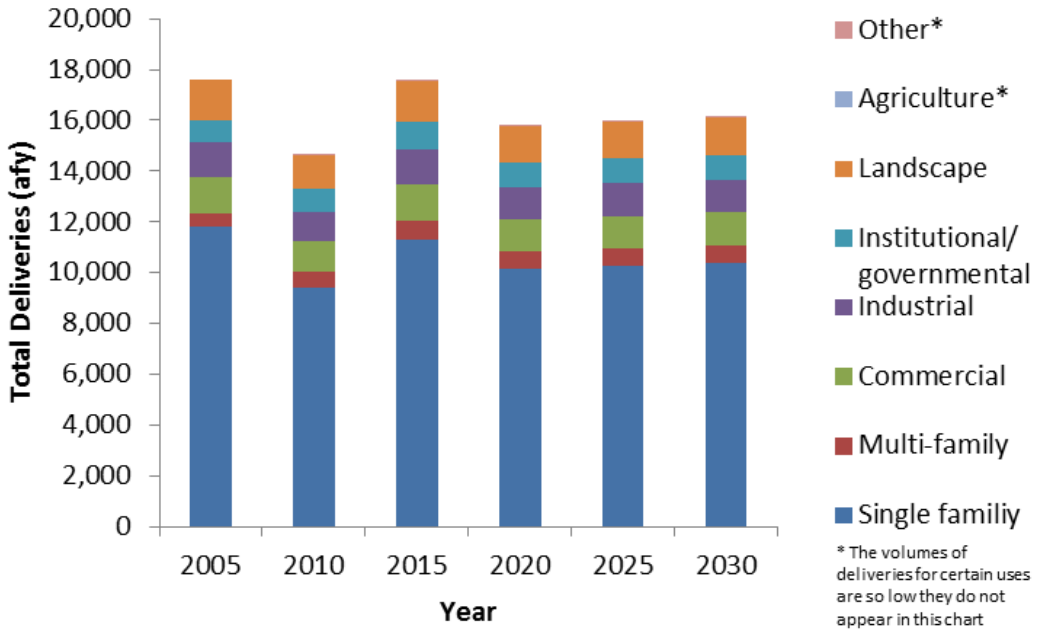

Figure 3-2. Past, Current, and Projected Deliveries

3.2.1 Low-Income Demands

Changes to the California Water Code section 10631.1 since 2005 require demand projections to include projected water use for single-family and multi-family residential housing needed for lower income households. Low-income households are defined as households making less than 80% of mean income. The Regional Housing Needs Assessment (RHNA) determines the housing needs in each jurisdiction over the planning period. SCAG's current RHNA planning period is from January 1, 2006, through June 30, 2014 (8.5 years). For this planning period, 744 new low-income units are projected to be needed in the City of Thousand Oaks (4) and 555 new low-income units are projected to be needed in the unincorporated area of Ventura County (5). California American Water serves approximately 46% of the land area of Thousand Oaks and approximately 0.2% of the unincorporated area of Ventura County. The percentage of Thousand Oak's area that is served by California American Water was applied to the Thousand Oak's total number of projected new units to determine the number of those that will be served by California American Water. Likewise, the percentage of the County's unincorporated area that is served by California American Water was applied to the County's unincorporated area's total number of projected new units to determine the number of those that will be served by California American Water. A total of approximately 341 new low income units will be needed in California American Water's District from 2006 through mid-2014, which is equivalent to 40 new low income units annually.

Once the number of projected low income units was established, the number of single-family and multi-family units was calculated by applying the percentage of existing single-family and multi-family residential connections. The amount of water used per connection was estimated based on historical connection and delivery data for 2010 and projected connection and delivery data for 2015. Linear interpolation was used to estimate the amount of water per connection for years not ending in 0 or 5. All demand for new low-income households is included in the total demand projections presented previously. Table 3-7 shows the portion of the total demand that is assumed to be for new low-income households.

Table 3-7. District's Low-Income Water Demands, afy

Low-income Water Demands	2010	2011	2012	2013
Single-family residential	19.59	20.33	21.06	21.79
Multi-family residential	1.27	1.32	1.36	1.41
Total	**20.86**	**21.64**	**22.42**	**23.20**

3.2.2 Sales to Other Water Agencies

Although the District has two emergency connections to the Crestview Mutual Water Company to deliver water in emergencies, the District does not have any contracts to sell water to other agencies as a wholesaler. Additionally, the District does not plan to sell water to other agencies in the future. Table 3-8 shows the historical, current, and projected amounts of water provided to other agencies.

Table 3-8. District's Sales to Other Water Agencies, afy

Water distributed	2005	2010	2015	2020	2025	2030
N/A	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

3.2.3 Additional Water Uses and Losses

Table 3-9 shows the past, current and projected amount of non-revenue water (NRW) for the District. NRW is defined as the water losses plus authorized unbilled (metered and unmetered) water consumption (6). In the District, there are authorized unbilled accounts. Thus, NRW is the difference between the amount of water the District purchases from the Calleguas Mutual Water District (CMWD) and the amount of water the District delivers to its customers.

The District operating reports are used to determine historical NRW. In the District, NRW has varied significantly in the past five years, as a percentage of total production: 9.3% in 2005 and 2.2% in 2010. A data set from District's operating reports for the years 2008-2010, is used to calculate projected NRW. This data represents the most recent three-year period and the current conditions of the service area. The average NRW over the last three years (2008-2010) was 3.05%; thus, for 2011 to 2030, the annual NRW is assumed to be equal to 3.05% of the 2011 projected total water use or 585 AFY. Future NRW is assumed to be constant at 585 AFY because the amount of water lost in the distributions system should not be impacted by changes in demand. Table 3-9 shows the NRW for the District.

Table 3-9. District Non-Revenue Water, afy

Water use	2005	2010	2015	2020	2025	2030
Non-revenue water (NRW)	1,821	341	585	585	585	585

3.2.4 Total Water Use

Table 3-10 shows the past, current, and projected total water use for the District. Total water use includes water delivered to customers, water sold to other agencies, and non-revenue water.

Table 3-10. Total Water Use, afy

Water Use	2005	2010	2015	2020	2025	2030
Total water deliveries	17,740	14,852	17,816	16,021	16,189	16,358
Sales to other water agencies	0	0	0	0	0	0
Non-revenue water (NRW)	1,821	341	585	585	585	585
Total	**19,561**	**15,194**	**18,402**	**16,606**	**16,774**	**16,943**

3.3 WHOLESALE WATER DEMANDS

The District purchases all of its water from the CMWD. Table 3-11 shows the amount of water projected to be purchased from the CMWD provided that the full supply from the CMWD is available per the requirements of the contract.

Table 3-11. Demand Projections Provided to Wholesale Suppliers, afy

Wholesaler	2010	2015	2020	2025	2030
CMWD	15,194	18,402	16,606	16,774	16,943

3.4 WATER USE REDUCTION PLAN

In response to multiple group affiliations, MOUs, statutory requirements, and concern for the region's water supply sustainability, California American Water employs multiple tactics to conserve water. The major tactics currently being implemented by California American Water include conservation measures, CUWCC Best Management Practices (BMPs) implementation, and conservation rate structures. All of these tactics are currently being implemented or are in the process of being implemented in the near future. The projected demand incorporates all of these conservation influences.

The District expects to achieve the per capita water use targets through continued implementation of CUWCC Best Management Practices (BMPs) and participation in regional conservation campaigns.

(1) BMPs: The District will continue to implement BMPs according to the CUWCC MOU. When in full compliance, the District is expected to meet its 2020 per capita water use target. Refer to Section 6 for a detailed discussion of the District's BMPs. A copy of the 2009 BMP Annual Report is included in Appendix C.

(2) Regional Conservation Campaigns: The District benefits from conservation efforts carried out by MWD. MWD promotes water conservation through the "Be Water Wise" campaign, the SoCal Water $mart Program for residential customers, and the Save A Buck Program for commercial customers. More details on MWD's public outreach efforts and campaigns are discussed in Section 6 of this UWMP.

Through the combined effect of the efforts listed above, the District is expected to achieve their per capita water use reduction targets.

4 SYSTEM SUPPLIES

4.1 WATER SOURCES

The District purchases its entire supply of water from wholesale agencies. Figure 4-1 illustrates how water is delivered to the District.

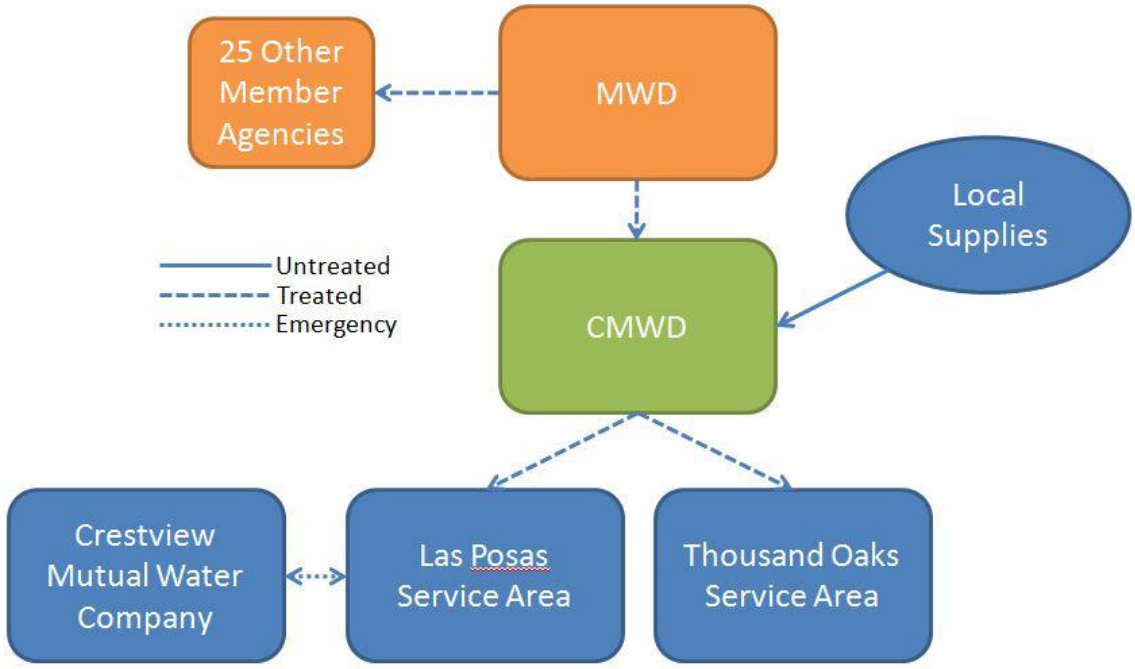

Figure 4-1. Water Supply Flow Chart

The following sections describe the key water agencies shown in Figure 4-1, in the same order as the flow chart (beginning with MWD and ending with the District).

4.1.1 Metropolitan Water District of Southern California (MWD)

MWD is a public agency that serves the Southern California coastal plain, from Oxnard in the north to the U.S.-Mexico border in the south, as shown in Figure 4-2. The total area service area is approximately 5,200 square miles. MWD has 26 member agencies, one of which is the CMWD. MWD is a water wholesaler, providing both treated and untreated water to its member agencies. MWD does not have any retail customers (7).

MWD receives imported water from three sources: (1) the Colorado River via the Colorado River Aqueduct (CRA); (2) the State Water Project (SWP) via the California Aqueduct; and (3) Local Supplies (7). Under normal operations, MWD delivers water to CMWD from the SWP and local sources. The planned sources of supply for MWD for 2010-2030 are shown in Table 4-1 and Table 4-2.

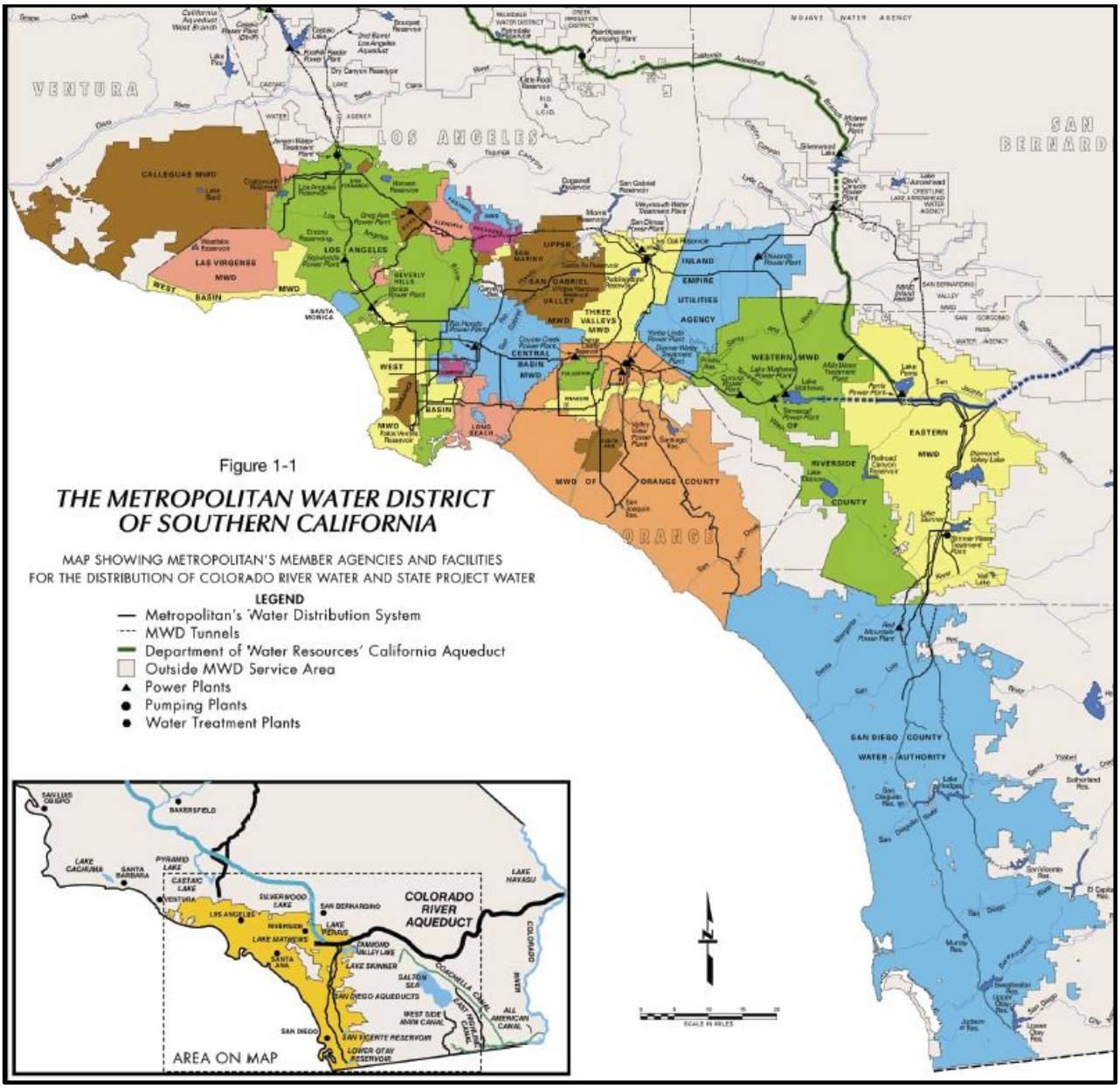

Figure 4-2. MWD Service Area (7)

Table 4-1. MWD Planned Sources of Supply for 2010-2020

Supply Source	2010		2015		2020	
	afy	% of Total	afy	% of Total	afy	% of Total
SWP	1,772,000	71%	1,550,000	44%	1,629,000	43%
CRA	711,000	29%	1,250,000	36%	1,250,000	33%
In-Region Storage and Programs	0	0%	685,000	20%	931,000	24%
Total	**2,483,000**	**100%**	**3,485,000**	**100%**	**3,810,000**	**100%**
Source: 2010 data from 2005 MWD Regional UWMP (8), 2015-2020 data from 2010 MWD Regional UWMP (7)						

Table 4-2. MWD Planned Sources of Supply for 2025-2030

Supply Source	2025		2030	
	afy	% of Total	afy	% of Total
SWP	1,763,000	43%	1,733,000	44%
CRA	1,250,000	31%	1,250,000	32%
In-Region Storage and Programs	1,076,000	26%	964,000	24%
Total	**4,089,000**	**100%**	**3,947,000**	**100%**
Source: 2010 MWD Regional UWMP (7)				

4.1.2 Calleguas Mutual Water District (CMWD)

CMWD is a wholesale water agency that delivers water to the District. CMWD service area is shown in Figure 4-3 below. CMWD's primary source of water is SWP water purchased from MWD. Typically, CMWD delivers water from MWD directly to its retail customers. However, CMWD has the ability to store excess water from MWD and local supplies in Lake Bard or at its Las Posas Aquifer Storage and Recovery well field for future delivery. The CMWD is working with other local agencies to increase the utilization efficiency of its local water supplies and is participating in numerous groundwater and desalination projects to reduce its reliance upon imported water. These projects are shown below in Table 4-3. Table 4-4 shows the planned sources of supply for CMWD.

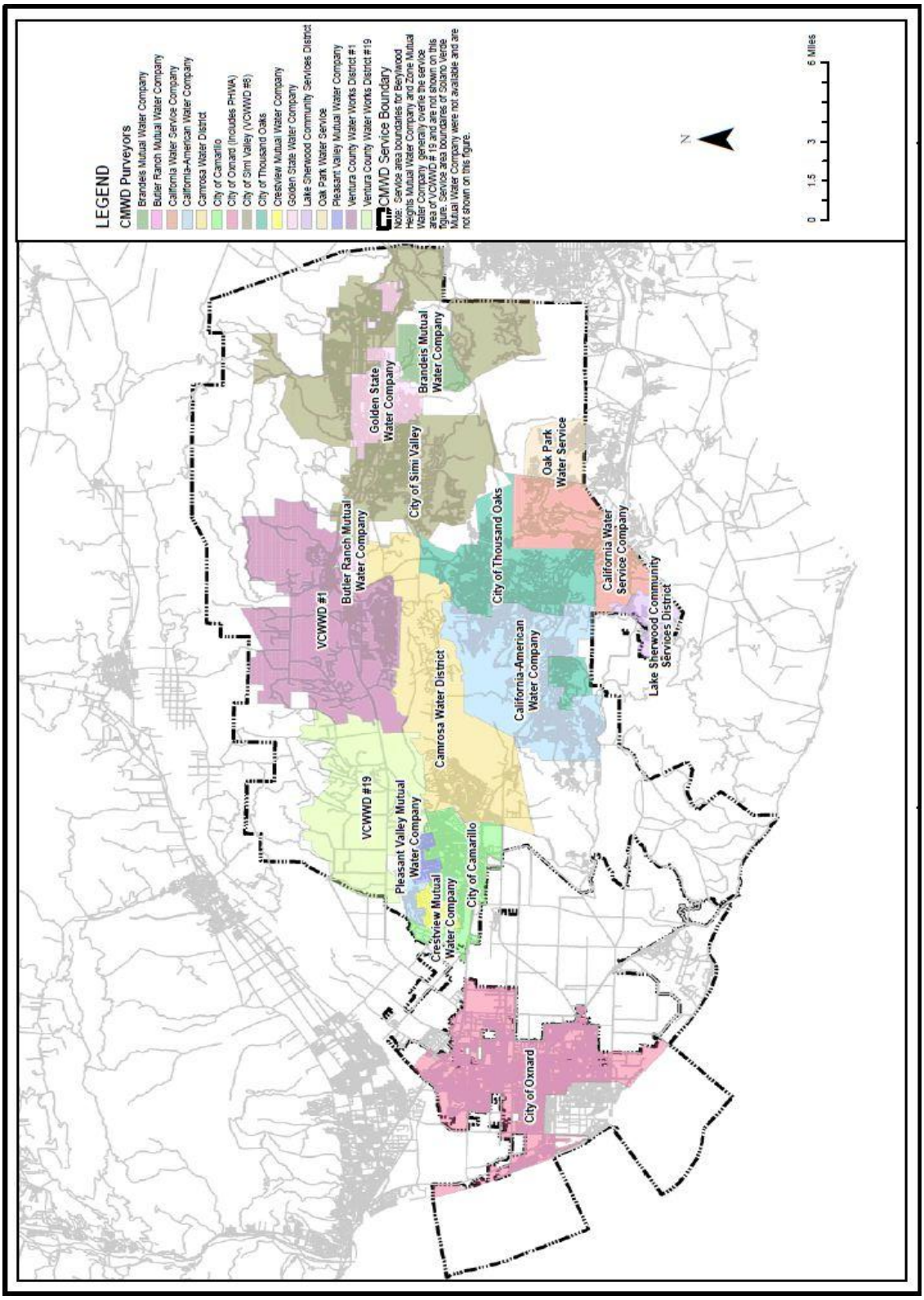

Figure 4-3. CMWD Service Area (9)

Table 4-3. Summary of Future CMWD Local Supply Projects (9)

Project	Impact to Supplies	Project Timing
Camarillo Recycled Water	Additional 500 ac-ft per year by 2015	Near-term
Camrosa Water District Recycled Water	Additional 1,020 ac-ft per year by 2015	Near-term
Oxnard GREAT Program	Additional 2,700 ac-ft per year in 2015 increasing to 7,000 ac-ft per year in 2035	Near-term and long-term
VCWWD No. 1 Reclaimed Water Distribution System Expansion	Additional 600 ac-ft per year by 2015	Near-term
Round Mountain Groundwater Desalter	1,000 ac-ft per year	Near-term
Camarillo Groundwater Desalter	7,000 ac-ft per year	Near to mid-term
Moorpark Groundwater Desalter	5,000 ac-ft per year	Mid- to long-term

Table 4-4. CMWD Planned Sources of Supply (2010-2035)[2]

Parameter	Volume (ac-ft per year)					
	2010	2015	2020	2025	2030	2035
Potable Groundwater	40,094	33,595	31,365	30,345	31,485	31,495
Desalinated Brackish Groundwater	800	13,499	14,032	14,040	14,048	14,057
Recycled Wastewater	6,947	12,009	17,273	18,457	19,091	19,175
Non-Potable Groundwater	7,068	7,331	7,734	8,132	8,730	9,328
Imported MWD Water	118,546	129,004	136,966	140,753	142,365	143,777
Total	**173,455**	**195,438**	**207,370**	**211,727**	**215,719**	**217,832**

4.1.3 Ventura County District

The District purchases all of its water from CMWD. Currently, the water is delivered through eleven turnouts. Ten of the turnouts distribute water into the Thousand Oaks service area and one turnout feeds the Las Posas service area (10).

The District has a contract with the CMWD that provides the right to purchase all of the potable water required to meet the service area demands. There is no maximum or minimum water purchase amount specified in the contract with CMWD (11).

[2] Represents Average Year supply projections for the CMWD (10).

4.2 GROUNDWATER

The District does not extract groundwater due to the poor quality of the groundwater within the District's service areas. Contaminant plumes from local industries have required the District to import all of its potable water supplies (12).

CMWD participates in programs designed to minimize ground water pumping in wet years and utilize groundwater supplies during dry years. Sources of supply for the wholesale water agencies that supply the District are shown in Section 4.1.

4.3 SURFACE WATER

The District does not have its own surface water supply. Sources of supply for the wholesale water agencies that supply the District are shown in Section 4.1.

4.4 TRANSFER OPPORTUNITIES

As a SWP subcontractor and a member agency of MWD, there are numerous transfer opportunities available to the CMWD. These transfer opportunities are listed in Chapter 2 of CMWD's 2010 UWMP and described in further detail in Section 5.2.

4.5 DESALINATED WATER OPPORTUNITIES

4.5.1 Seawater Desalination

In 2000, the MWD created the Seawater Desalination Program (SDP) and solicited projects from its member agencies. Five projects were submitted for a total project yield of 142,000 AFY. In 2004, the SDP established a target of 150,000 afy of seawater desalination by 2020 (1). Additionally, there are three desalination projects separate from the SDP, but within the MWD service area being evaluated (9).

4.5.2 Brackish Water Desalination

Within the CMWD's service area, there are three brackish water desalter projects being proposed. The timeframes for these projects and their projected production capacity are described in Table 4-4. These projects would allow agencies within the Calleguas Creek watershed to recover the poor quality groundwater and increase the availability and reliability of their local supplies (9).

To discharge the brine created at the proposed desalter projects, the CMWD has proposed the installation of a Salinity Management Pipeline (SMP). The SMP would convey the high TDS waste from the desalters to the ocean for disposal (13).

4.6 RECYCLED WATER OPPORTUNITIES

The District does not own or operate wastewater collection or treatment facilities or recycled water distribution facilities. However, the wastewater collection and treatment agencies for both of the District's service areas are currently recycling the wastewater or will be implementing recycled water in the near future.

4.6.1 Wastewater System Description

Wastewater produced within the District's service area is treated by two separate agencies. The City of Thousand Oaks treats the wastewater produced from the Thousand Oaks service area at the Hill Canyon Treatment Plant, and the City of Oxnard treats wastewater from the Las Posas service area at the Oxnard Wastewater Treatment Plant. The Hill Canyon Treatment Plant treats approximately 98% of the District's wastewater. The locations of the treatment plants that treat the wastewater collected from the District's service areas are shown in Figure 4-4 below.

Figure 4-4. Wastewater Treatment Facilities Serving the District's Service Area

4.6.1.1 Hill Canyon Wastewater Treatment Plant

The Hill Canyon Wastewater Treatment Plant is a full capacity tertiary treatment facility and has a capacity of 14 MGD. The treatment process includes: screening; grit removal; clarification; nutrient removal; secondary clarification; multi-media filtration; disinfection; and dechlorination. The tertiary treated wastewater is discharged to Calleguas creek, at an average daily flow rate of 10.5 MGD, and is utilized downstream for agriculture and landscape reuse in the Santa Rosa Valley and the Oxnard Plain (14).

4.6.1.2 Oxnard Wastewater Treatment Plant

The Oxnard Wastewater Treatment Plant treats all of the wastewater collected from the Las Posas service area to disinfected secondary standards. Currently, all of the treated wastewater discharges to an ocean outfall. However, Oxnard is currently constructing an Advanced Water Purification Facility (AWPF). The AWPF will treat a portion of the plant's effluent to above Title 22 tertiary treatment standards. The AWPF treatment process will include: microfiltration; reverse osmosis; UV and hydrogen peroxide treatment processes. The recycled water will be used for landscape irrigation; industrial processes; agriculture irrigation; and groundwater recharge (15). The first phase of the AWPF is scheduled to come online and begin distributing recycled water in 2011 and will be expandable to produce up to 28,000 afy (11).

4.6.2 Wastewater Disposal and Recycled Water Use

Currently, only wastewater collected from the Las Posas service area is discharged to the ocean. Once the AWPF becomes operational, it will be utilized by the City of Oxnard to limit the amount of water that is discharged through the ocean outfall. All of the wastewater collected from the Thousand Oaks service area and delivered to the Hill Canyon Wastewater Plant is discharged to Calleguas Creek for agriculture and landscape reuse.

The quantity of wastewater collected from the District service area and discharged to the ocean is calculated using census population data, SCAG population growth estimates and unit wastewater flow rates. This analysis uses the City of Thousand Oaks estimate that 85 gallons of wastewater are generated per capita per day (16). All wastewater generated in the Thousand Oaks service area is treated to recycled water standards and is reused for agriculture and landscape irrigation, whereas, the wastewater generated at the Las Posas service area is currently treated to secondary standards and discharged through an ocean outfall. However, for 2015 and beyond it is assumed that all wastewater from the Las Posas service area will be treated at the AWPF and reused in the City of Oxnard's recycled water system.

Table 4-5 summarizes the quantity of wastewater collected and the quantity that is treated to recycled water standards. As stated above, it was assumed that all wastewater from the Las Posas service area is currently discharged to the ocean, but will be treated to recycled water standards and reused by 2015, as shown in Table 4-6.

Table 4-5. Wastewater Collected and Treated, afy

Type of Wastewater	2005	2010	2015	2020	2025	2030
Wastewater collected & treated in service area[1]	5,617.6	5,917.3	5,979.7	6,040.0	6,100.9	6,162.4
Volume that meets recycled water standard	5,481.8	5,781.7	5,979.7	6,040.0	6,100.9	6,162.4

[1]Assumes 85 gallons per capita per day (16). Population estimates based on Census and SCAG data.

Table 4-6. Wastewater Disposal Methods and Treatment Level, afy

Method of Disposal	Treatment Level	2005	2010	2015	2020	2025	2030
Ocean Outfall	Secondary	135.8	135.6	0	0	0	0
	Total	**135.8**	**135.6**	**0**	**0**	**0**	**0**

4.6.3 Recycled Water Use Optimization

The largest potential use for recycled water within the District is for landscape irrigation at public parks, golf courses, government offices, schools, and commercial and industrial complexes. Table 4-7 shows the potential use for recycled water within the District assuming all demand from dedicated irrigation meters could be supplied with recycled water.

Table 4-7. Potential Recycled Water Use in the District, afy

User type	Description	2015	2020	2025	2030
Agricultural irrigation	N/A	0	0	0	0
Landscape irrigation[1]	Tertiary Treatment	43	44	44	45
Commercial irrigation[1]	Tertiary Treatment	1,150	1,161	1,173	1,185
Golf course irrigation[1]	Tertiary Treatment	134	136	137	139
Wildlife habitat	N/A	0	0	0	0
Wetlands	N/A	0	0	0	0
Industrial reuse	N/A	0	0	0	0
Groundwater recharge	N/A	0	0	0	0
Seawater barrier	N/A	0	0	0	0
Geothermal/Energy	N/A	0	0	0	0
Indirect potable reuse	N/A	0	0	0	0
	Total	**1,328**	**1,341**	**1,355**	**1,368**

[1]The District's 2010 customer database was used to apportion landscape water use to each irrigation category (landscape irrigation, commercial irrigation, and golf course irrigation). Historically, no recycled water is used within the District service area.

Table 4-8 shows the projected use of recycled water for 2010 as predicted in the 2005 UWMP, as well as actual use of recycled water in 2010. The District does not currently provide financial incentives for encouraging the use of recycled water.

Table 4-8. 2005 UWMP Recycled Water Use Projected for 2010 and Actual 2010 Recycled Water Use, afy

Use Type	2005 Projection for 2010	2010 Actual Use
Agricultural irrigation	0	0
Landscape irrigation	0	0
Commercial irrigation	0	0
Golf course irrigation	0	0
Wildlife habitat	0	0
Wetlands	0	0
Industrial reuse	0	0
Groundwater recharge	0	0
Seawater barrier	0	0
Geothermal/Energy	0	0
Indirect potable reuse	0	0
Total	**0**	**0**

As shown in Table 4-9, the District does not project any recycled water will be used within its service areas in the next 20 years. The tertiary treated wastewater produced at the Hill Canyon Treatment Plant is currently fully utilized for agriculture and landscape irrigation in the Santa Rosa Valley and Oxnard Plains. The wastewater collected from the Las Posas service areas will be treated at the AWPF, but it is unlikely that it will be distributed back to the service area for reuse, as the Las Posas service areas is located 10 miles from the AWPF.

Table 4-9. Projected Future Recycled Water Use in Service Area, afy

User type	Description	2015	2020	2025	2030
Agricultural irrigation	N/A	0	0	0	0
Landscape irrigation	Tertiary Treatment	0	0	0	0
Commercial irrigation	Tertiary Treatment	0	0	0	0
Golf course irrigation	Tertiary Treatment	0	0	0	0
Wildlife habitat	N/A	0	0	0	0
Wetlands	N/A	0	0	0	0
Industrial reuse	N/A	0	0	0	0
Groundwater recharge	N/A	0	0	0	0
Seawater barrier	N/A	0	0	0	0
Geothermal/Energy	N/A	0	0	0	0
Indirect potable reuse	N/A	0	0	0	0
Total		**0**	**0**	**0**	**0**

4.7 FUTURE WATER PROJECTS

California American Water develops capital improvement projects as a part of the Comprehensive Planning Studies (CPSs) which are periodically prepared for each service area. CPSs are typically prepared on a five to eight year cycle with interim updates prepared as conditions change or the need arises. Each service area is evaluated for specific needs from which a prioritized list of projects is developed. Projects are generally classified into one of several categories as follows: Source of Supply, Storage, Conjunctive Use, and Water Quality / Water Efficiency. Some projects meet multiple planning goals across two or more of the listed categories. A storage project, for example, not only provides increased system reliability but also assists in meeting peak hour demands often delaying the need for additional source of supply. Currently, there are no additional sources of supply listed in 2006 CPS (10). Other projects identified in the CPS are focused on improving condition of existing infrastructure (10). The District is currently in the process of updating its CPS and the updated CPS should be completed in 2012.

5 WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING

5.1 WATER SUPPLY RELIABILITY

The water supply agreement with CMWD states that the CMWD is obligated to provide water to meet 100% of the District's demand, even in the event of an extreme water shortage. With the exception of one emergency connection, the District receives all of its water from the CMWD and thus has the same supply reliability as its wholesaler.

5.1.1 Factors Affecting Supply Reliability

CMWD has imported and local water supplies. Imported water from CMWD, which is purchased from MWD, is affected by additional factors. MWD's supply is imported from the Colorado River and Bay-Delta through the CRA and the SWP, respectively. The local and imported supplies are affected by legal, environmental, water quality and climatic factors.

- **Legal:** Supply allocations from the CRA are dictated through legal agreements and, in some cases, court settlements. Supply from SWP is affected by legal factors, including the Bay-Delta Accord, which changed operating criteria of the SWP and can significantly reduce supply to MWD in dry years (7). Several of the groundwater basins within the CMWD service area are regulated to ensure that the groundwater resources are utilized in the best interest of the public and for the common benefit of the all the water users (9).
- **Environmental:** Several species of fish located in the Bay-Delta have been listed as endangered, which has led to decreased pumping by the SWP and environmental litigation (7). Numerous environmental regulations limit the discharge of brine waste from desalination facilities. These regulations may impact CMWD and its retail water providers by limiting utilization of local brackish groundwater resources.
- **Water Quality:** Disinfection byproducts pose water quality issues for the SWP. Disinfection byproducts form when organic carbon and bromide in the source water react with disinfectants at the water treatment plant. Groundwater inflows into the SWP also pose arsenic concerns (7). TDS levels in the Ventura County groundwater are increasing due to discharges from local wastewater treatment facilities. Increased groundwater treatment may be required to utilize local groundwater supplies (9).
- **Climatic:** Variable hydrology in the basins that feed the Sacramento-San Joaquin Delta affects SWP supply.

The factors resulting in inconsistency of supply for both the District's local and imported sources are summarized in Table 5-1.

Table 5-1. Factors Resulting in the District's Inconsistency of Supply

Water Supply Sources	Legal	Environmental	Water Quality	Climatic
CMWD- Local Supplies	X	X	X	X
CMWD- Imported Water	X	X	X	X

5.1.2 Supply Reliability

The supply reliability for the District is wholly dependent upon the supply reliability of its wholesale agency (CMWD). The District's contract with CMWD guarantees 100% reliability of supply and thus, as shown in Table 5-2, the District's supply reliability is set at 100% for all scenarios.

Table 5-2. District's Supply Reliability Projections

	Average / Normal Water Year Supply	Single Dry Year	Multiple Dry Water Year Supply				
			Year 1	Year 2	Year 3	Year 4	Year 5
District[1]	100%	100%	100%	100%	100%	100%	100%

[1]The contract between the District and CMWD guarantees that there will be supply to meet 100% of the District's potable water demand.

According to its Draft 2010 UWMP, the CMWD has sufficient surplus to meet future demands under average year conditions (9). The CMWD's average year condition supply projections are shown in Table 5-3.

Table 5-3 CMWD's Supply Reliability Projections-Average Year Conditions (9)

Parameter	Volume (afy)					
	2010	2015	2020	2025	2030	2035
Average Year Demand	171,776	179,818	188,687	192,121	198,164	202,160
Average Year Local Supply	54,909	66,434	70,404	70,974	73,354	74,055
Imported Demand on MWD	116,867	113,384	118,283	121,147	124,810	128,105
MWD Available Supplies	118,546	129,004	136,966	140,753	142,365	143,777
Surplus	1,679	15,620	18,683	19,606	17,555	15,672
Surplus/Deficit	1%	14%	16%	16%	14%	12%

In Table 5-4, the CMWD shows a 7% deficit in its dry year supply reliability projections for 2010 due to ongoing drought conditions and Bay-Delta issues. The deficit in 2010 was due to voluntary and mandatory restrictions imposed on the region because of drought conditions and limited availability of Bay-Delta supplies. Implementation of demand management measures and cooler weather enabled the CMWD purveyors to accommodate the reduced MWD allocation in 2010. However, looking forward the CMWD projects a supply surplus in dry year conditions through 2035 (9).

Table 5-4 CMWD's Supply Reliability Projections-Dry Year Conditions (9)

Parameter	Volume (afy)					
	2010	2015	2020	2025	2030	2035
Average Year Demand	176,548	185,960	194,699	198,843	206,556	211,547
Average Year Local Supply	55,711	67,333	71,511	72,096	74,592	75,310
Imported Demand on MWD	120,837	118,627	123,188	126,747	131,964	136,237
MWD Available Supplies	112,042[1]	131,876	139,975	143,819	145,534	147,013
Surplus	-8795	13,249	16,787	17,072	13,570	10,776
Surplus/Deficit	-7%[2]	11%	14%	13%	10%	8%

Under multiple dry year conditions, the CMWD projects to maintain a supply surplus through 2035 (9). Table 5-5 shows the supply projections for the CMWD under multiple dry year conditions.

Table 5-5 CMWD's Supply Reliability Projections-Multiple Dry Year Conditions (9)

Parameter	Volume (afy)					
	2010	2015	2020	2025	2030	2035
Average Year Demand	176,728	185,654	194,330	198,448	205,556	210,205
Average Year Local Supply	54,376	60,301	64,489	65,793	66,834	67,574
Imported Demand on MWD	122,352	125,353	129,841	132,655	138,722	142,631
MWD Available Supplies[3]	-	131,104	139,985	145,255	148,545	149,548
Surplus	-	5,751	10,144	12,600	9,823	6,917
Surplus/Deficit	-	5%	8%	9%	7%	5%

[1] MWD's projected 2010 dry-year allocation for CMWD in a non-shortage condition was 121,313 ac-ft. Actual allocation for 2010 was 112,042 ac-ft due to ongoing drought conditions and Bay-Delta issues.
[2] Demand management measures and cooler than normal weather helped CMWD purveyors accommodate the reduced MWD allocation.
[3] MWD does not project multiple dry year supplies for the current year. For 2010 conditions, refer to the single dry year supply versus demand analysis.

5.1.3 Resource Maximization and Import Minimization

The District currently purchases all of the water required to meet its needs from CMWD. CMWD is working on numerous projects to reduce its reliance on imported water. These projects are described in Section 5.2.3.

A key step to reducing imports will be to reduce potable water demands. Improving water conservation will allow the District to reduce is import demands. Additional information regarding the District's water conservation efforts is available in Section 6 and Appendix C. Using recycled water for landscaping and other allowable applications would also reduce the District's potable water demand. See Section 4.6 for more details on the potential use of recycled water in the District.

5.2 DROUGHT PLANNING

The CMWD, MWD and DWR are implementing several water supply strategies to ensure that sufficient supply is available in drought conditions. These strategies include investments in: conservation; water recycling; transfer agreements; storage; and supply. Based on these investments DWR, MWD, and CMWD anticipate that there will be sufficient supply available to meet forecasted purveyor demands (9).

5.2.1 DWR Strategies

- Bay-Delta Conservation Plan – The primary objective of the Bay-Delta Conservation Plan is to restore the Bay-Delta in such a way that results in a more resilient ecosystem and more reliable supplies. Several alternatives for achieving the plan's objectives have been proposed and are currently being evaluated as part of an Environmental Impact Report / Environmental Impact Statement.

5.2.2 MWD Strategies

- Transfer & Storage – The MWD is implementing transfer agreements and storage strategies to increase the reliability of the SWP and Colorado River supplies.

- **Transfer Opportunities** – The MWD has developed water transfer agreements between agriculture and municipal water users to improve supply reliability.

5.2.3 CMWD Strategies

- **Las Posas Aquifer Storage and Recovery** - The CMWD and MWD have banked water within the Las Posas groundwater basin. This water can be pumped to maintain deliveries during times when surface water supplies are limited.

- **Lake Bard** – Lake Bard provides the CMWD with a local source of supply. The lake can store approximately 8,000 AF of water and the treatment plant has a capacity of 100 cfs. These supplies can be utilized when imported supplies are curtailed.

- **Salinity Management Project** – The salinity management project will treat local groundwater that is too saline for potable use. This will enable the CMWD to increase groundwater supplies and improve regional supply reliability.

5.3 WATER SHORTAGE CONTINGENCY PLANNING

5.3.1 Introduction

The UWMP Act requires a Water Shortage Contingency Plan to include stages of action, mandatory prohibitions and restrictions, consumption reduction methods, penalties for excessive use, a three-year minimum water supply estimate, and a catastrophic supply interruption plan.

5.3.2 Water Supply Shortage Stages and Conditions

California American Water is an investor owned utility regulated by the California Public Utilities Commission (CPUC). Accordingly, California American Water must obtain CPUC approval for any water conservation programs, including voluntary and/or mandatory measures. California American Water has on file with CPUC the attached Rule 14.1 (Appendix H) to obtain CPUC approval for a staged water conservation plan for the District, which complies with UWMP Act requirements for a Water Shortage Contingency Plan. Conditions that require stages of action are defined in Section B of Rule 14.1. In the event of a 50% reduction in supply, California American Water would implement the mandatory conservation measures described within Section H to achieve a 50% reduction in demand.

5.3.3 Catastrophic Supply Interruption plan

In the event of a sudden and catastrophic loss of water supply, the Ventura County District as Part of California American Water, has written an Emergency Response Plan (ERP,) which is used to guide the District's employees (17).

The ERP contains detailed action items to the following list of events that might result in a drastic loss in supply.

1. Bomb Threat
2. Chemical Storage
3. Chemical/Hazardous Material Release
4. Dam and Levee Failure
5. Destruction/Failure of any Part of the Water System
6. Evacuation
7. Fire/Explosion
8. Medical Emergency
9. Power Failure
10. SCADA Attack/Electronic
11. SCADA Attack/Physical
12. Severe Weather/Natural Disasters (Including Earthquakes)
13. Sheltering-in-Place
14. Terrorist/Hostile Attack
15. Threat and Identification of Contamination to the Water System
16. Unauthorized Entry
17. Workplace Violence

In the event of a power outage, the District's first response task is to activate/check the status of emergency power supply. Someone will be assigned to monitor the status of the emergency supply during the incident and report any problems to the Incident Commander. Once the power has been restored, all affected equipment will be reset and restarted. The overall strategy is to determine if the reason for the outage is local to the plant or regional and the estimated time to return power. This will provide the District with the degree of significance of the situation, which will help assess the need to secure additional diesel fuel for generators. The treatment process would also be operated to minimize the effects of the power loss.

The first response in the event of an earthquake is to perform a system audit to determine the extent of damage to utilities, piping, and processes. This audit will allow the District to concentrate staff and resources on issues that needs to be addressed immediately. Additional staff will be required for sampling, analysis, equipment repair, manual equipment and process operation, and communication. A report of the damage will be issued to the Incident Commander followed by a list of supplies that are necessary for repairs.

5.3.4 Three-year Minimum Water Supply

The minimum supply for the District is equal to the driest three-year historic sequence in the history of District's supply. Through its contract with CMWD, the District has a right to purchase up to 100% of its potable water demand. Thus, there has never been a time when demand could not be fully met with purchased water from CMWD. Thus, it is assumed that the supply from the CMWD meets 100% of the District's demand.

Table 5-6 shows the three-year minimum water supplies for the District.

Table 5-6. District's Three-year Minimum Water Supplies, afy

Supply Source	2011	2012	2013
CMWD [1]	18,598	18,404	18,209

[1] CMWD supply is assumed to be 100% of the District's demand. CMWD is required to meet 100% of the District's potable water demand.

5.3.5 Revenue and Expenditure Analysis

California American Water develops a proposed rate structure and submits it to the CPUC for review and approval as part of each General Rate Case filing. These filings are usually made on a three-year cycle. To assist in revenue stabilization during periods of reduced sales, including mandatory reductions during drought, California American Water has obtained a Water Revenue Adjustment Mechanism (WRAM) in the last General Rate Case. A WRAM is the mechanism through which sales are decoupled from revenues, so that conservation is encouraged without having a negative financial impact. Currently, all of California American Water's districts, except Sacramento, have received CPUC approval for and have set up the WRAM.

A WRAM tracks the differences between total quantity charge revenues authorized by the CPUC ("Total Actual Quantity Revenues") and total quantity charge revenues actually recovered based on recorded water sales. The revenue requirements are the same under conservation rates as they would be under the previous rate structure. Implementation of a surcharge/surcredit is determined by considering the net balance of the WRAM account in conjunction with a cost balancing account. The cost balancing account tracks actual variable costs for purchased power, purchased water, and pump taxes compared to CPUC adopted levels.

5.3.6 Mechanisms for Determining Actual Reductions

The District's connections with CMWD are metered. During a water shortage, a comparison of total water purchased would be carried out to determine if water is being conserved on the District level. Additionally, all customer accounts are metered. During a water shortage, a comparison of customer delivery records would be carried out to determine if water is being conserved.

5.3.7 Supply and Demand Comparison

Table 5-7 shows a supply and demand comparison for the District during a normal year scenario. Table 5-8 shows a supply and demand comparison for the District during a single dry year scenario. Table 5-9 shows a supply and demand comparison for the District during a multiple dry year scenario.

Table 5-7. Supply and Demand Comparison- Normal Year, afy

	2015	2020	2025	2030
Supply totals	18,402	16,606	16,774	16,943
Demand totals	18,402	16,606	16,774	16,943
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 5-8. Supply and Demand Comparison- Single Dry Year, afy

	2015	2020	2025	2030
Supply totals	18,402	16,606	16,774	16,943
Demand totals	18,402	16,606	16,774	16,943
Difference	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%

Table 5-9. Supply and Demand Comparison- Multiple Dry-Year Scenario, afy

		2015	2020	2025	2030
Multiple-dry year first year supply	Supply totals	18,402	16,606	16,774	16,943
	Demand totals	18,402	16,606	16,774	16,943
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year second year supply	Supply totals	18,402	16,606	16,774	16,943
	Demand totals	18,402	16,606	16,774	16,943
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%
Multiple-dry year third year supply	Supply totals	18,402	16,606	16,774	16,943
	Demand totals	18,402	16,606	16,774	16,943
	Difference	0	0	0	0
	Difference as % of Supply	0%	0%	0%	0%
	Difference as % of Demand	0%	0%	0%	0%

5.3.8 Draft Ordinance

California American Water does not have authority to adopt resolutions or ordinances as a public utility company. However, California American Water can support local jurisdictions in developing ordinances or resolutions within the District's service areas that would be compatible with California American Water's Water Shortage Contingency Plan. For all intents and purposes of this UWMP, the Rule No. 14.1 advice Letter 881 filed with the CPUC (see Appendix H) serves as the Water Shortage Contingency Plan resolution and anticipated course of action to achieve all necessary requirements of the Water Shortage Contingency Plan if needed.

5.4 WATER QUALITY

The District continues to have good water quality. In 2009, the District's water met all U.S. Environmental Protection Agency (EPA) and California State drinking water standards (18).

The District purchases all of its water as treated water from CMWD. Water delivered to the District from CMWD is of good quality and meets all primary and secondary drinking water standards (10).

Since October 2007, MWD began fluoridating all of its drinking water, including that which is supplied to the District. The program was approved by the CDPH and includes monthly reporting to CDPH. Fluoride supplements are added to the water to bring the fluoride level to 0.7 milligrams per liter, which meets the U.S. Centers for Disease Control and Prevention recommended fluoride dose (19).

The U.S. Environmental Protection Agency's Stage 2 Disinfectant/Disinfection By-Product (D/DBP) Rule requires consecutive water purveyors to ensure that delivered water meets the D/DBP maximum contaminant levels (MCLs). The MCLs for Total Trihalomethane (TTHM) and Haloacetic Acid (HAA5), both which are by-products of drinking water chlorination, are 80 parts per billion (ppb) and 60 ppb, respectively. In 2009, the measured TTHM and HAA5 levels for the District were far below the MCLs; the TTHM level was 26.4 ppb and the HAA5 level was 4.4 ppb (18). CMWD uses chloramine for disinfection which produces less TTHM and HAA5 by-products than chlorine, which helps the District comply with the Stage 2 D/DBP Rule. Additionally, California American Water chlorinates water at the White Stallion Pump Station to meet chlorine residual standards.

6 DEMAND MANAGEMENT MEASURES

The UWMP Act requires a discussion of Demand Management Measures (DMMs), including a description of each of the DMMs currently being implemented or scheduled for implementation through 2015, the schedule of implementation for all DMMs, and the methods, if any, the District will use to evaluate the effectiveness of DMMs. If a DMM is not being implemented or scheduled for implementation, the UWMP must include an evaluation of economic and noneconomic factors such as environmental, social, health, customer impact, and technological factors; a cost-benefit analysis; a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; and a description of the legal authority of the water supplier to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

The UWMP Act identifies 14 DMMs. These 14 DMMs correspond to the 14 BMPs listed and described in the CUWCC MOU. These 14 DMMs also correspond to the DMMs identified in DMM Implementation Compliance (AB 1420). The BMPs and DMMs are examples of sound water management practices that have been found to be cost effective and practicable in most instances throughout California. DWR consulted with CUWCC and determined that DMMs will be equated with BMPs. Therefore, DMMs and BMPs are referred to interchangeably in this Plan. Table 6-1 shows which DMMs and BMPs correspond with each other.

The UWMP Act allows CUWCC members to submit their 2009-2010 approved CUWCC BMP report with their UWMPs in lieu of a DMM section if the water supplier is in full compliance with the CUWCC MOU. The District is a CUWCC member but it is not known if the District is in full compliance since the District has not yet received indication from CUWCC. A copy of the District's 2009-2010 CUWCC BMP report is included in Appendix C to provide a framework for future UWMPs and BMP implementation, and this UWMP includes the required DMM section.

Table 6-1. DMMs and BMPs

CUWCC BMP Organization and Names (2009 MOU)				UWMP DMMs	
Type	Category	BMP #	BMP name	DMM #	DMM name
Foundational	Operations Practices	1.1.1	Conservation Coordinator	L	Water conservation coordinator
		1.1.2	Water Waste Prevention	M	Water waste prohibition
		1.1.3	Wholesale Agency Assistance Programs	J	Wholesale agency programs
		1.2	Water Loss Control	C	System water audits, leak detection, and repair
		1.3	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	D	Metering with commodity rates for all new connections and retrofit of existing connections
		1.4	Retail Conservation Pricing	K	Conservation pricing
	Education Programs	2.1	Public Information Programs	G	Public information programs
		2.2	School Education Programs	H	School education programs
Programmatic	Residential	3.1	Residential assistance program	A	Water survey programs for single-family residential and multifamily residential customers[1]
				B	Residential plumbing retrofit
		3.2	Landscape water survey	A	Water survey programs for single-family residential and multifamily residential customers[1]
		3.3	High-Efficiency Clothes Washing Machine Financial Incentive Programs	F	High-efficiency washing machine rebate programs
		3.4	WaterSense Specification (WSS) toilets	N	Residential ultra-low-flush toilet replacement programs
	Commercial, Industrial, and Institutional	4	Commercial, Industrial, and Institutional	I	Conservation programs for commercial, industrial, and institutional accounts
	Landscape	5	Landscape	E	Large landscape conservation programs and incentives

[1] Components of DMM A (Water survey programs for single-family residential and multifamily residential customers) apply to both BMP 3.1 (Residential assistance program) and BMP 3.2 (Landscape water survey)

6.1 EVALUATION OF BMP EFFECTIVENESS

The effectiveness of each BMP has an impact on the overall effectiveness of the BMPs. Some BMPs can be quantitatively evaluated independent of the other BMPs; for those BMPs, specific evaluation methodology is presented for the BMP in the appropriate subsection of Section 6.2.

The method used to evaluate the effectiveness of the BMPs as a whole is the calculation of the overall per capita water use (gpcd) reduction from the baseline per capita water use. As shown in Appendix A, the District's 2010 actual water use was 218 gpcd, which reflects a reduction in per capita water use of approximately 25% from the baseline, and is less than the 2020 target water use of 234 gpcd. The District believes that these significant reductions make additional savings less likely and therefore does not anticipate further reductions in per capita water use beyond the 2020 target through the horizon of this plan.

Future effectiveness will continue to be measured by calculating reduction from the baseline per capita water use per the requirements of SB7 as described in Appendix A.

6.2 BMPS IMPLEMENTED OR PLANNED TO BE IMPLEMENTED

6.2.1 BMP 1.1.1 CONSERVATION COORDINATOR (DMM L)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *Designate a person as the agency's responsible conservation coordinator for program management, tracking, planning, and reporting on BMP implementation* (20).

In 2005, California American Water created and staffed a statewide Water Conservation Coordinator position, now called the Manager of Conservation and Efficiencies. This position is responsible for managing the water conservation activities for all of the California American Water's districts. These responsibilities include preparing and tracking water conservation budgets, overseeing data collection, BMP fulfillment reporting and communicating with senior management regarding water conservation issues and related water conservation activities.

The Manager is supported by conservation staff in each district, as shown in Table 6-2. In the Ventura County District, there is one part-time conservation position, which is described in greater detail below. In addition, there is a full-time position, the Conservation Specialist, for the entire Southern Division, which includes the Ventura County District, the Los Angeles County District, and the San Diego County District.

Table 6-2. California American Water Conservation Team

Conservation Staff	Number of Full-Time Positions	Number of Part-Time Positions
Statewide	1	0
Sacramento District	1.5	2
Larkfield District	0	1
Monterey County District	2.5	1
Ventura County District	0	1
Los Angeles County District	0	1
San Diego County District	0	1
All Southern Division (Los Angeles, Ventura and San Diego County Districts)	1	0
Total	**6**	**7**

In 2010, the District funded one part-time conservation staff position (21). The District's part-time conservation staff helped to administer the Conservation Program by tracking equipment inventory, performing conservation patrols, conducting research, responding to customer questions, and reaching out to customers to publicize conservation programs.

In addition, the Manager of Conservation and Efficiencies and the District's conservation staff work closely with and receive assistance from other District staff. The central call center and local district customer service staff are the primary responders for distributing water conserving devices and processing rebate applications. Operations personnel assist with collecting production and sales data, water loss reduction efforts, staffing local events, and coordinating with staff from cooperating agencies.

Table 6-3 shows the conservation staff through 2010. The District plans to continue implementing this BMP, but does not anticipate hiring any additional dedicated water conservation staff. Table 6-4 shows the planned conservation staff positions through 2014.

The method used to evaluate the effectiveness of the BMPs as a whole, and this BMP in particular, is the calculation of the overall per capita water use (gpcd) reduction from the baseline per capita water use. As shown in Appendix A, the District's 2010 actual water use was 218 gpcd, which reflects a reduction in per capita water use of 26% since the statewide Conservation Coordinator was hired in 2005. The District's 2010 actual water use of 218 gpcd is also less than the 2020 target water use of 234 gpcd. The District believes that these significant reductions make additional savings less likely and therefore does not anticipate further reductions in per capita water use beyond the 2020 target through the horizon of this plan.

Table 6-3. Actual Conservation Staff

Actual	2006	2007	2008	2009	2010
Number of full-time positions[1]	1	1	1	1	2
Number of part-time positions	-	-	-	-	1

[1] Includes the statewide Manager of Conservation and Efficiencies and, from 2010 forward, the Southern Division Conservation Specialist.

Table 6-4. Planned Conservation Staff

Planned	2011	2012	2013	2014
Number of full-time positions[1]	2	2	2	2
Number of part-time positions	1	1	1	1

[1] Includes the statewide Manager of Conservation and Efficiencies and the Southern Division Conservation Specialist.

6.2.2 BMP 1.1.2 WATER WASTE PREVENTION (DMM M)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

a) New development

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that (1) prohibit water waste such as, but not limited to: single- pass cooling systems; conveyer and in-bay vehicle wash and commercial laundry systems which do not reuse water; non-recirculating decorative water fountains and (2) address irrigation, landscape, and industrial, commercial, and other design inefficiencies.

b) Existing users

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that prohibit water waste such as, but not limited to: landscape and irrigation inefficiencies, commercial or industrial inefficiencies, and other misuses of water.

c) Water shortage measures

Enact, enforce, or support legislation, regulations, ordinances, or terms of service that facilitate implementation of water shortage response measures.

The District does not have legal authority or ordinances as a public utility company and must obtain approval from the CPUC to implement water conservation programs, including voluntary and/or mandatory measures. In February 2011, California American Water submitted Rule 14.1 to the CPUC to define water conservation measures and the approval process that California American must follow to implement mandatory water conservation (Appendix H).

Section D of Rule 14.1 (Appendix H) defines water conservation requirements that are effective at all times until deactivated by the CPUC. These conservation requirements define non-essential uses of water and limit the water waste from new developments and existing customers. Although these are considered requirements, they are voluntary and serve as the District's Voluntary Water Conservation Program. The District's Voluntary Water Conservation Program pamphlet, shown in Figure 6-1, is available online or from the District.

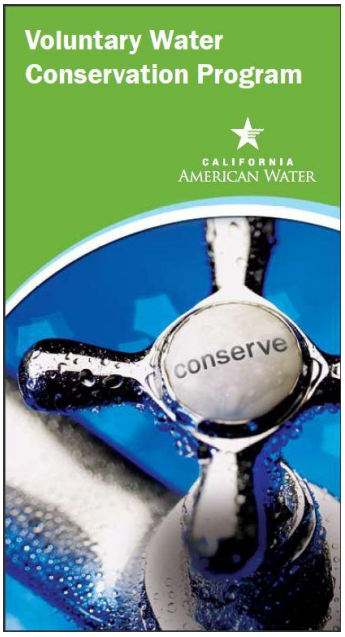

Figure 6-1. Conservation Pamphlet

Sections E through H of Rule 14.1 (Appendix H) list the specific requirements of the Districts 3 mandatory conservation stages. The District must receive authorization from the CPUC before implementing mandatory conservation measures.

The mandatory conservation stages listed in Rule 14.1 shall remain dormant until the District submits a letter to the CPUC and receives authorization to declare mandatory conservation. The mandatory conservation request letter to the CPUC shall include justification for activating the particular mandatory conservation stage, as well as the expected duration the mandatory conservation will be in effect.

6.2.3 BMP 1.1.3 WHOLESALE AGENCY ASSISTANCE PROGRAMS (DMM J)

This BMP is not applicable to retail water suppliers.

6.2.4 BMP 1.2 WATER LOSS CONTROL (DMM C)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *1) Standard Water Audit and Water Balance. All agencies shall quantify their current volume of apparent and real water loss. Agencies shall complete the standard water audit and balance using the American Water Works Association (AWWA) Water Loss software to determine their current volume of apparent and real water loss and the cost impact of these losses on utility operations at no less than annual intervals.*
>
> *2) Validation. Agencies may use up to four years to develop a validated data set for all entries of their water audit and balance. Data validation shall follow the methods suggested by the AWWA Software to improve the accuracy of the quantities for real and apparent losses.*
>
> *3) Economic Values. For purposes of this BMP, the economic value of real loss recovery is based upon the agency's avoided cost of water as calculated by the Council's adopted Avoided Cost Model or other agency model consistent with the Council's Avoided Cost Model.*

4) Component Analysis. A component analysis is required at least once every four years and is defined as a means to analyze apparent and real losses and their causes by quantity and type. The goal is to identify volumes of water loss, the cause of the water loss and the value of the water loss for each component. The component analysis model then provides information needed to support the economic analysis and selection of intervention tools. An example is the Breaks and Background Estimates Model (BABE) which segregates leakage into three components: background losses, reported leaks and unreported leaks.

5) Interventions. Agencies shall reduce real losses to the extent cost-effective. Agencies are encouraged to refer to the AWWA's 3rd Edition M36 Publication, Water Audits and Loss Control Programs (2009) for specific methods to reduce system losses.

6) Customer Leaks. Agencies shall advise customers whenever it appears possible that leaks exist on the customer's side of the meter.

The District maintains production and delivery records. The District purchases all of its supply from CMWD. The amount of water entering the District's system from CMWD is metered, which gives a measure of total production. All billed customer connections are metered, which allows the District to measure the total billed customer deliveries.

The District completed training in the AWWA Water Audit Method and the Component Analysis Process (22). In 2010, the District began using the AWWA Water Loss software to analyze water losses. The District performed the audit for a one-year period beginning March 2009 and ending February 2010. In addition to the audit, the District completed its most recent Component Analysis in February 2010 (22).

The District repairs all reported leaks to the extent cost-effective and locates and repairs unreported leaks to the extent cost-effective (22). The District is in the process of developing a statewide policy for water loss and leak detection. In addition, the District provides leak detection information and assistance to its customers through providing educational tools and giveaways, such as dye tablets, to detect leaks. This is discussed under BMP 3.1 (Section 6.2.9).

6.2.5 BMP 1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS (DMM D)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

1) Require meters for all new service connections.

2) Establish a program for retrofitting existing unmetered service connections.

3) Read meters and bill customers by volume of use.

a) Establish and maintain billing intervals that are no greater than bi-monthly (every two months) for all customers.

b) For each metered connection, perform at least five actual meter readings (including remotely sensed) per twelve month period.

4) Prepare a written plan, policy or program that includes:

a) A census of all meters, by size, type, year installed, customer class served and manufacturer's warranty accuracy when new;

b) A currently approved schedule of meter testing and repair, by size, type and customer class;

c) A currently approved schedule of meter replacement, by size, type, and customer class; and

5) Identifying intra- and inter-agency disincentives or barriers to retrofitting mixed use commercial accounts with dedicated landscape meters, and conducting a feasibility study(s) to assess the merits of a program to provide incentives to switch mixed use accounts to dedicated landscape meters.

The District is 100% metered. The District performs meter reading on a monthly basis and consequently bills customers on a monthly basis. All customers, with the exception of private fire connections, are billed a service charge and a usage rate/commodity charge for each unit of water consumed. More details on rate structures are provided under BMP 1.4 (Section 6.2.6).

The District maintains a database to track meters and record years in service. The District follows a program to test meters 3-inches or larger. The District has a meter replacement budget to replace meters that do not pass testing requirements (23).

The District currently has about 359 dedicated landscape meters. The District does not have a program or plan in place to switch mixed-use accounts to dedicated landscape meters because the costs for a program like this in the District would be high due to approvals/permits required by CMWD (23).

The District plans to continue to implement this BMP, but this BMP is not expected to yield additional water savings since all connections in the District are metered.

6.2.6 BMP 1.4 RETAIL CONSERVATION PRICING (DMM K)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

Conservation pricing provides economic incentives (a price signal) to customers to use water efficiently. Because conservation pricing requires a volumetric rate, metered water service is a necessary condition of conservation pricing. Unmetered water service is inconsistent with the definition of conservation pricing.

Conservation pricing requires volumetric rate(s). While this BMP defines a minimum percentage of water sales revenue from volumetric rates, the goal of this BMP is to recover the maximum amount of water sales revenue from volumetric rates that is consistent with utility costs (which may include utility long-run marginal costs), financial stability, revenue sufficiency, and customer equity.

Part I. Retail Water Service Rates

In addition to volumetric rate(s), conservation pricing may also include one or more of the following other charges:

1) Service connection charges designed to recover the separable costs of adding new customers to the water distribution system.

2) Monthly or bimonthly meter/service charges to recover costs unrelated to the volume of water delivered or new service connections and to ensure system revenue sufficiency.

3) Special rates and charges for temporary service, fire protection service, and other irregular services provided by the utility.

The following volumetric rate designs are potentially consistent with the above definition:

1) Uniform rate in which the volumetric rate is constant regardless of the quantity consumed.

2) Seasonal rates in which the volumetric rate reflects seasonal variation in water delivery costs.

3) Tiered rates in which the volumetric rate increases as the quantity used increases.

4) Allocation-based rates in which the consumption tiers and respective volumetric rates are based on water use norms and water delivery costs established by the utility.

Adequacy of Volumetric Rate(s): A retail agency's volumetric rate(s) shall be deemed sufficiently consistent with the definition of conservation pricing when it satisfies at least one of the following two options.

Option 1: Let V stand for the total annual revenue from the volumetric rate(s) and M stand for total annual revenue from customer meter/service (fixed) charges, then:

$V/(V+M) \geq 70\%$

This calculation shall only include utility revenues from volumetric rates and monthly or bimonthly meter/service charges. It shall not include utility revenues from new service connection charges; revenue from special rates and charges for temporary service, fire protection, or other irregular services; revenue from grants or contributions from external sources in aid of construction or program implementation; or revenue from property or other utility taxes.

Option 2: Use the rate design model included with the Municipal Water and Wastewater Rate Manual published by the Canadian Water & Wastewater Association with the signatory's water system and cost information to calculate V', the uniform volume rate based on the signatory's long-run incremental cost of service, and M', the associated meter charge. [Let HCF be annual water delivery (in hundred cubic feet).] A signatory's volumetric rate(s) shall be deemed sufficiently consistent with the definition of conservation pricing if:

$V/V+M \geq V'/ V' + M'$

Part II. Retail Wastewater Service Rates

Conservation pricing of sewer service provides incentives to reduce average or peak use, or both. Such pricing includes: rates designed to recover the cost of providing service, and billing for sewer service based on metered water use. Conservation pricing of sewer service is also characterized by one or more of the following components: rates in which the unit rate is the same across all units of service (uniform rates); rates in which the unit rate increases as the quantity of units purchased increases (increasing block rates); rates in which the unit rate is based upon the long-run marginal cost or the cost of adding the next unit of capacity to the sewer system. Rates that charge customers a fixed amount per billing cycle for sewer service regardless of the units of service consumed do not satisfy the definition of conservation pricing of sewer service. Rates in which the typical bill is determined by high fixed charges and low commodity charges also do not satisfy the definition of conservation pricing of sewer service.

The type of rate structure used by the District for each connection type is shown in Table 6-5 and is described here:

(1) Residential Connections: The District's water rate structure encourages residential customers to conserve water by using tiered rates. The three tiers currently used are from 0-15 hundreds of cubic feet (HCF), 15-26 HCF and 26+ HCF (24). The tiered rate structure establishes volumetric rates; that is the more water a customer consumes, the more expensive the water becomes. In addition, the District's rates include a monthly service charge per meter depending on the size of the connection.

(2) Non-Residential Connections (except private fire): The District uses a uniform rate for commercial, public authority, and industrial customers, in which the volumetric rate is constant regardless of the amount of water consumed. In addition, the District's rates include a monthly service charge per meter depending on the size of the connection.

(3) Private Fire Connections: Private fire protection systems and private fire hydrants are charged a fixed monthly fee per hydrant or connection, and are not included in the revenue calculation below according to the CUWCC MOU.

(4) Metered Construction Service: The District offers a metered rate schedule for water service furnished for construction purposes (24). The District uses a uniform volumetric rate structure and requires a minimum daily charge.

Table 6-5. Water Rate Structures

Customer Type	Water Rate Structure
Residential	Three Tier Volumetric Rate
Commercial	Single Tier Volumetric Rate
Industrial	Single Tier Volumetric Rate
Institutional/Government	Single Tier Volumetric Rate
Private Fire	Fixed
Construction	Single Tier Volumetric Rate with Minimum Charge

Option 1 was chosen to analyze the adequacy of volumetric rates and is shown below for 2010:

V / (V+M) ≥ 70%

21,917,535 / (21,917,535 + 2,225,927) = 0.91

91% ≥ 70%

In 2010, the revenue from volumetric charges account for more than 70% of the total annual revenue, thus satisfying option 1.

The District does not provide sewer service; thus, part 2 of this BMP is not applicable.

6.2.7 BMP 2.1 PUBLIC INFORMATION PROGRAMS (DMM G)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *1) The program should include, when possible, but is not limited to, providing speakers to employees, community groups and the media; using paid and public service advertising; using bill inserts; providing information on customers' bills showing use for the last billing period compared to the same period the year before; providing public information to promote water conservation measures; and coordinating with other government agencies, industry groups, public interest groups, and the media.*
>
> *2) The program should include, when possible, social marketing elements which are designed to change attitudes to influence behavior. This includes seeking input from the public to shape the water conservation message; training stakeholders outside the utility staff in water conservation priorities and techniques; and developing partnerships with stakeholders who carry the conservation message to their target markets.*

3) When mutually agreeable and beneficial, the wholesale agency or another lead regional agency may operate all or part of the public information program. If the wholesale agency operates the entire program, then it may, by mutual consent with the retail agency, assume responsibility for CUWCC reporting for this BMP. Under this arrangement, a wholesale agency may aggregate all or portions of the reporting and coverage requirements of the retail agencies joining into the mutual consent.

The District implements a strategic public outreach program to reach out to customers and promote water use efficiency and conservation. The District carries out both targeted outreach to specific customers and general outreach to all customers. As part of the District's targeted outreach efforts, the District mailed letters to the highest water users in 2009, informing them that 95% of their fellow residents use less water (25). The second group of highest water users were also sent letters informing them that 85% of their fellow residents use less water (25). The District also sent letters to those in the District who had reduced water use by more than 15% to acknowledge them and encourage them to continue their efforts.

The District's general outreach was comprised of community events, public meetings and open houses (Figure 6-2), outreach campaigns (including email campaigns), bill inserts, mailers, door-hangers, and newspaper advertising. Some highlights of the District's public outreach efforts include:

(1) Annual "Love Run": The District participates in the annual "Love Run," where the District has a large booth to promote conservation programs, distribute water savings devices, and educate adults and children in attendance (21).
(2) Demonstration Garden: The District has a California Friendly Drought Tolerant Demonstration Garden at its Newbury Park facility, which promotes outdoor water conservation (26).
(3) Radio Campaigns: In 2009, the District had a 4-month radio sponsorship with KCLU (National Public Radio). The radio spots reminded customers to limit water usage and provided contact information for the District (25).
(4) Association of Water Agencies Ventura County (AWAVC): The District is an active member of AWAVC, which was formed in 1976 and provides a forum for the exchange of information on local and regional water issues, including water conservation (27). As a member of AWAVC the District participates in many of the water conservation campaigns within Ventura County, including water conservation symposiums.
(5) Amgen Earth Day Event: In April 2011, the District participated in the Amgen Earth Day event to promote water conservation. During the event, the District distributed 500 tote bags containing water conservation devices and educational materials. Photos of the District's participation in the Amgen Earth Day event are shown below in Figure 6-3 and Figure 6-4.

Figure 6-2. District Open House

Figure 6-3. Amgen Earth Day Event 1

Figure 6-4. Amgen Earth Day Event 2

The District plans to continue implementing this BMP and also to expand outreach through other types of events, as shown in Table 6-7.

The effectiveness of this BMP cannot be measured quantitatively. However, it is assumed that educating the public in water conservation increases general awareness of water conservation issues and has contributed to the decline in water use seen in the District through 2010. Public outreach is expected to continue to play an important role in the District's conservation efforts and to help the District meet its 2020 gpcd target.

Table 6-6. Number of Actual Public Outreach Events

Actual	2006	2007	2008	2009	2010
a. Paid advertising	-	-	-	3	-
b. Public Service Announcement	-	-	-	-	-
c. Bill Inserts / Newsletters / Brochures	-	1	2	10	2
d. Bill comparing previous water usage	-	-	-	-	-
e. Demonstration Gardens	-	-	1	1	1
f. Special Events, Media Events	-	Yes[1]	-	2	1+
g. Speaker's Bureau	Yes[1]	-	-	-	-
h. Program to coordinate with other govt agencies, industry and public interest groups and media	-	-	-	-	-
i. Public meetings	-	-	2	-	2

[1] Reports do not specify number of events.

Table 6-7. Number of Planned Public Outreach Events

Planned	2011	2012	2013	2014
a. Paid advertising	-	-	-	-
b. Public Service Announcement	2	2	2	2
c. Bill Inserts / Newsletters / Brochures	1	1	1	1
d. Bill comparing previous water usage	-	-	-	-
e. Demonstration Gardens[1]	1	1	1	1
f. Special Events, Media Events	6	5	5	5
g. Speaker's Bureau	-	-	-	-
h. Program to coordinate with other govt agencies, industry and public interest groups and media	-	-	-	-
i. Public meetings	Included in f.			

The District benefits from regional marketing efforts, specifically paid advertising and outreach campaigns sponsored by MWD. MWD promotes water conservation through their Be Water Wise program. MWD hosts a webpage, bewaterwise.com, which contains information on water conservation, recent news, and rebate programs. In addition, MWD hosts a website for residential water customers, socalwatersmart.com, and a website for commercial customers, mwdsaveabuck.com; each contains information on their respective rebate programs. Some of MWD's other efforts include: radio, newspaper, and television advertisement; funding of community projects and demonstration gardens; landscape workshops; and educational presentations at community events and distribution of educational materials (28). The District will continue to benefit from MWD's public outreach efforts.

6.2.8 BMP 2.2 SCHOOL EDUCATION PROGRAMS (DMM H)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *1) Implement a school education program to promote water conservation and water conservation-related benefits.*
>
> *2) Programs shall include working with school districts and private schools in the water suppliers' service area to provide instructional assistance, educational materials, and classroom presentations that identify urban, agricultural, and environmental issues and conditions in the local watershed. Educational materials shall meet the state education framework requirements and grade-appropriate materials shall be distributed.*
>
> *3) When mutually agreeable and beneficial, the wholesale agency or another lead regional agency will operate all or part of the education program; if the wholesale agency operates all or part of the retail agency's school education program, then it may, by mutual consent with the retail agency, assume responsibility for CUWCC reporting of this BMP; under this arrangement, a wholesale agency may aggregate all or portions of the reporting and coverage requirements of the retail agencies joining into the mutual consent.*

Since 2008, the District has partnered with Southern California Edison and the Gas Company to implement the LivingWise program (26). The LivingWise program, developed by Resource Action Programs (RAP), educates students on water conservation and energy efficiency. The LivingWise program targets 6th graders in schools in the District's service area. The program includes in-class activities and lectures, at-home audit activities, and a student follow-up report of activities and findings (25).

A summary of the number of students reached through the LivingWise program is shown in Table 6-8. The District plans to continue implementing this BMP. A summary of the number of students expected to be reached is shown in Table 6-9.

The effectiveness of this BMP cannot be measured quantitatively. However, it is expected that educating students in water conservation increases general awareness of water conservation issues and may contribute to long-term water reduction in the District.

Table 6-8. Number of Students Reached Through Various Methods

Actual	2006[1]	2007[1]	2008	2009	2010
Grades K-3rd	-	-	-	-	-
Grades 4th-6th	-	-	1,333	-	-
Grades 7th-8th	-	-	-	-	-
High School	-	-	-	-	-
Unspecified	-	-	-	350[2]	350[2]
Total	**-**	**-**	**1,333**	**350**	**350**

[1] District did not implement programs. Relied on those carried out by wholesalers and MWD.
[2] This is an estimate. Exact numbers were not available.

Table 6-9. Number of Students Expected to be Reached

Planned	2011	2012	2013	2014
Grades K-3rd	-	-	-	-
Grades 4th-6th	800	800	800	800
Grades 7th-8th	-	-	-	-
High School	-	-	-	-
Unspecified	-	-	-	-
Total	**800**	**800**	**800**	**800**

In addition to the District's programs, students in the District benefit from various MWD programs and free educational materials developed and provided by MWD (25). MWD also hosts a dynamic and engaging website containing online activities, games and information for students of all ages grouped into the following categories: K-5, 6-8, 9-12, Post Secondary, and Teachers (29).

6.2.9 BMP 3.1 RESIDENTIAL ASSISTANCE PROGRAM (DMM A/ DMM B)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *Provide site-specific leak detection assistance that may include, but is not limited to, the following: a water conservation survey, water efficiency suggestions, and/or inspection. Provide showerheads and faucet-aerators that meet the current water efficiency standard as stipulated in the WaterSense Specifications (WSS) as needed.*

The District has a Residential Water Audits Program and a Residential Plumbing Retrofit Program, which benefit the District's residential customers.

6.2.9.1 Residential Water Audits

The Residential Water Audits Program provides free residential audits for single and multi-family properties. The audits are carried out by the District's staff or the District's contractor. The audits include a detailed assessment of the indoor and outdoor usage, an individualized water budget, and recommended monthly irrigation schedule. In addition, the customer receives a comprehensive audit package with applicable water savings devices, water and energy rebate application forms, and educational material. All audit data and information is collected and maintained in an Excel database to allow for easy tracking of water saving opportunities and natural upgrade trends for toilets and other water saving devices.

The historical and projected number of residential audits performed in the District are shown in Table 6-10 and Table 6-11.

Table 6-10. Actual Residential Water Audits

Actual	2006	2007	2008	2009	2010
Number of residential audits	-	-	-	69	172
Actual water savings – AFY[1]	-	-	-	2.48	6.19

[1]Assumes 0.036 AFY of savings per audit based on CUWCC BMP Water Savings Worksheet for residential audits.

Table 6-11. Planned Residential Water Audits

Planned	2011	2012	2013	2014
Number of residential audits	55	30	30	30
Projected water savings - AFY[1]	1.98	1.08	1.08	1.08

[1] Assumes 0.036 AFY of savings per audit based on CUWCC BMP Water Savings Worksheet for residential audits.

6.2.9.2 Residential Plumbing Retrofit

Through the Residential Plumbing Retrofit Program, the District provides customers various water saving devices including showerheads, faucet aerators (kitchen and bathroom), toilet leak detection tablets, garden hose spray nozzles, soil probes, and educational pamphlets. The devices and educational materials are designed to help customers improve indoor and outdoor water use efficiency. The devices and materials are provided to customers upon request at community events and meetings, office walk-ins, customer call-ins, and through the home water survey program. The historical and projected devices distributed the program are shown in Table 6-12 and Table 6-13, respectively.

Table 6-12. Actual Number of Plumbing Retrofit Devices

Actual	2006	2007	2008	2009	2010
Showerhead	800	Yes[1]	Yes[1]	392	2,342
Faucet Aerator	-	Yes[1]	Yes[1]	533	743
Toilet Flapper	-	-	Yes[1]	135	355
Tankbank	-	Yes[1]	Yes[1]	211	480
Drip Gauge	-	-	-	-	58
Leak Detection Tablets	-	Yes[1]	Yes[1]	273	1,146
Shower Timers	-	-	-	-	394
Hose Spray Nozzle	-	Yes[1]	Yes[1]	332	898
Hose Timer	-	-	Yes[1]	-	-
Soil Probe	-	Yes[1]	Yes[1]	185	520
Rain/Sprinkler Gauge	-	Yes[1]	Yes[1]	-	-
Other	-	-	Yes[1]	-	224
Educational Materials	-	-	Yes[1]	Yes[1]	-
Total Number of Devices[2]	**800**	**unknown**	**unknown**	**2,061**	**7,160**
Actual water savings – AFY[3]	**4.96**	**unknown**	**unknown**	**4.14**	**18.17**

[1] Quantity not tracked.
[2] Does not include educational materials.
[3] Total water savings only includes savings for showerheads (0.0062 AFY/device), faucet aerators (0.0017 AFY/device), toilet flappers (0.0047 AFY/device) and leak detection tablets (0.0007 AFY/device). Water savings assumptions shown are based on CUWCC BMP Water Savings Worksheets for each device.

Table 6-13. Planned Number of Plumbing Retrofit Devices

Planned	2011	2012	2013	2014
Showerhead	1000	400	400	400
Faucet Aerator	1100	600	600	600
Toilet Flapper	220	160	160	160
Tankbank	320	250	250	250
Drip Gauge	60	40	40	40
Leak Detection Tablets	1000	700	700	700
Shower Timers	240	160	160	160
Water Efficiency Measurer Bag	-	-	-	-
Hose Spray Nozzle	450	300	300	300
Soil Probe	320	250	250	250
Rain/Sprinkler Gauge	-	-	-	-
Other	-	-	-	-
Educational Materials	-	-	-	-
Total Number of Devices[1]	**4,710**	**2,860**	**2,560**	**2,860**
Actual water savings – AFY[2]	**9.76**	**4.73**	**4.73**	**4.73**

[1] Does not include educational materials.
[2] Total water savings only includes savings for showerheads (0.0062 AFY/device), faucet aerators (0.0017 AFY/device), toilet flappers (0.0047 AFY/device) and leak detection tablets (0.0007 AFY/device). Water savings assumptions shown are based on CUWCC BMP Water Savings Worksheets for each device.

6.2.10 BMP 3.2 LANDSCAPE WATER SURVEY (DMM A)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *Perform site-specific landscape water surveys that shall include, but are not limited to, the following: check irrigation system and timers for maintenance and repairs needed; estimate or measure landscaped area; develop customer irrigation schedule based on precipitation rate, local climate, irrigation system performance, and landscape conditions; review the scheduling with customer; provide information packet to customer; and provide customer with evaluation results and water savings recommendations.*

Site-specific landscape water surveys for residential customers are included with the Residential Water Audits Program described under BMP 3.1 (Section 6.2.9). Refer to BMP 3.1 (Section 6.2.9).

Rebates for landscape-related devices for residential customers are offered through MWD's SoCal Water $mart rebate program. In 2009, the District partnered with its wholesaler, CMWD, to offer rebates to residential customers through MWD's SoCal Water $mart rebate program. The program requires that residential customers reside in areas served by MWD wholesalers. Rebated devices to reduce outdoor water use include synthetic turf rebates, rotating nozzles, and smart controllers (also known as weather based irrigation controllers (WBIC)). The SoCal Water $mart program is completely funded by MWD. The past and projected number of devices rebated are summarized in Table 6-14 and Table 6-15, respectively.

Table 6-14. Actual Residential Landscape Rebates- SoCal Water $mart Program

Actual	2006	2007	2008	2009	2010
Rotating Nozzle	-	-	-	-	308
Smart Controller (WBIC)	-	-	-	-	3
Synthetic Turf			-	1	-
Number of rebates paid	-	-	**-**	**1**	**311**
Actual water savings – AFY [1]	-	-	**-**	**unknown**	**1.36**

[1] Assumes 0.0040 AFY savings per rotating nozzle and 0.0414 AFY savings per smart controller rebate based on 2010 MWD savings reported to District (30).

Table 6-15. Planned Residential Landscape Rebates- SoCal Water $mart Program

Planned	2011	2012	2013	2014
Rotating Nozzle	80	60	60	60
Smart Controller (WBIC)	12	15	15	15
Synthetic Turf	-	-	-	-
Other	-	-	-	-
Number of rebates paid	**92**	**75**	**75**	**75**
Actual water savings – AFY [1]	**0.82**	**0.86**	**0.86**	**0.86**

[1] Assumes 0.0040 AFY savings per rotating nozzle and 0.0414 AFY savings per smart controller rebate based on 2010 MWD savings reported to District (30).

6.2.11 BMP 3.3 HIGH-EFFICIENCY CLOTHES WASHING MACHINE FINANCIAL INCENTIVES PROGRAMS (DMM F)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *Provide incentives or institute ordinances requiring the purchase of high-efficiency clothes washing machines (HECWs) that meet an average water factor value of 5.0. If the WaterSense Specification is less than 5.0, then the average water factor value will decrease to that amount.*

The District administers rebates for residential customers to purchase high-efficiency clothes washers (HECWs). Prior to January 2007, the District managed and provided in-house rebates for HECWs. From January 2007 through May 2007, the District's contracted View Tech to manage the HECW rebate program, while also processing rebates internally (28). In June 2007, the District partnered with CUWCC to offer the Smart Rebate program which was co-funded by the District and Proposition 50 Water Use Efficiency grant funding through DWR (28). The program continued through 2008 and into January 2009. DWR funding was frozen on January 31, 2009 (25). From January 31, 2009, through June 2010, the District provided in-house rebates for HECWs. In June 2010, the District resumed its partnership with CUWCC to provide rebates for HECWs through CUWCC's grant-funded Smart Rebate program (21).

In 2009, the District partnered with its wholesaler, CMWD, to offer rebates to residential customers through MWD's SoCal Water $mart rebate program. The program requires that residential customers reside in areas served by MWD wholesalers. Rebated devices include HECWs. The SoCal Water $mart program is completely funded by MWD.

The rebates paid through each program are summarized in Table 6-16. The District plans to continue implementation of this BMP, as shown in Table 6-17.

Table 6-16. Actual Residential HECW Rebates

Actual	2006[1]	2007	2008	2009	2010
Smart Rebate Program (CUWCC) and In-House Rebate Program					
$ per rebate	100[2]	Up to 150	150[2]	150[2]	108
Number of rebates paid	27	83[3]	60	-	33
SoCal Water $mart Rebate Program (MWD)					
$ per rebate	-	-	-	85	85
Number of rebates paid	-	-	-	26	244
Total					
Number of rebates paid	**-**	**83[3]**	**60**	**26**	**277**
Actual water savings – AFY [4]	**-**	**2.61**	**1.88**	**0.82**	**8.70**

[1] HECW's rebated in 2006 had a water factor less than or equal to 6, which was the lowest water use category in the 2006 CUWCC reporting framework.
[2] Rebate amount is an estimate.
[3] 2007 PUC report states that there was potentially 83 rebates, but exact number was not reported (28).
[4] Assumes 0.0314 AFY of savings per HECW based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 10 year lifespan (31). Note that MWD's program assumes 0.0312 AFY of savings per HET; to be consistent, these estimates assume 0.0314 AFY of savings per HET regardless of the rebate program.

Table 6-17. Planned Residential HECW Rebates

Planned	2011	2012	2013	2014
Smart Rebate Program (CUWCC)				
$ per rebate	Up to 150	Up to 150	Up to 150	Up to 150
Number of rebates paid	10	25	25	25
SoCal Water $mart Rebate Program (MWD)				
$ per rebate	85	85	85	85
Number of rebates paid	275	50	50	50
Total				
Number of rebates paid	**285**	**75**	**75**	**75**
Projected water savings - AFY [1]	**8.95**	**2.36**	**2.36**	**2.36**

[1] Assumes 0.0314 AFY of savings per HECW based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 10 year lifespan (31). Note that MWD's program assumes 0.0312 AFY of savings per HET; to be consistent, these estimates assume 0.0314 AFY of savings per HET regardless of the rebate program.

6.2.12 BMP 3.4 WATER SENSE SPECIFICATION (WSS) TOILETS (DMM N)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *Provide incentives or ordinances requiring the replacement of existing toilets using 3.5 or more gpf (gallons per flush) with a toilet meeting WSS.*

The current WSS requires that single flush toilets use 1.28 gpf or less, which is 20% less than the federal maximum of 1.6 gpf (32). Consistent with WSS, the CUWCC defines high-efficiency toilets (HETs) as toilets using 1.28 gpf or less. Note that ultra low flush toilets (ULFTs) are defined as toilets that use 1.6 gpf.

The District administers rebates for residential customers to replace existing toilets with HETs. Prior to June 2007, the District provided in-house rebates for replacing inefficient toilets with ULFTs or HETs. From June 2007 through January 2009, the District partnered with CUWCC to offer the Smart Rebate program which was co-funded by the District and Proposition 50 Water Use Efficiency grant funding through DWR. DWR funding was frozen on January 31, 2009 (25). From January 31, 2009, through June 2010, the District provided in-house rebates for HETs. In June 2010, the District resumed its partnership with CUWCC to provide rebates for HETs through CUWCC's grant-funded Smart Rebate program (21).

In 2009, the District partnered with its wholesaler, CMWD, to offer rebates to residential customers through MWD's SoCal Water $mart rebate program. The program requires that residential customers reside in areas served by MWD wholesalers. Rebated devices include HETs. The SoCal Water $mart program is completely funded by MWD, although the District has provided additional funding in some years (25).

The rebates paid through each program are summarized in Table 6-18. The District plans to continue implementation of this BMP, as shown in Table 6-19.

Table 6-18. Actual Residential HET Rebates

Actual	2006[1]	2007	2008	2009	2010
Smart Rebate Program (CUWCC) and In-House Rebate Program					
Number of rebates paid	31	15	38	-	37
SoCal Water $mart Rebate Program (MWD)					
Number of rebates paid	-	-	-	25	65
Total					
Number of rebates paid	**31**	**15**	**38**	**25**	**102**
Actual water savings – AFY [3]	**0.69**	**0.34**	**0.85**	**0.56**	**2.28**

[1] In 2006, rebates were given for replacing inefficient toilets with ULFTs, which use 1.6 gpf.
[2] In 2007, there was no participation in the Smart Rebate Program and the number of toilets rebated through the in-house program were not reported in the 2007 CPUC report (28).
[3] Assumes 0.0224 AFY of savings per HET based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 25 year lifespan (31). Note that MWD's program assumes 0.0425 AFY of savings per HET; to be consistent and conservative, these estimates assume 0.0224 AFY of savings per HET regardless of the rebate program.

Table 6-19. Planned Residential HET Rebates

Planned	2011	2012	2013	2014
Smart Rebate Program (CUWCC)				
Number of rebates paid	10	15	15	15
SoCal Water $mart Rebate Program (MWD)				
Number of rebates paid	-	25	25	25
Total				
Number of rebates paid	**10**	**40**	**40**	**40**
Projected water savings - AFY [1]	**0.22**	**0.90**	**0.90**	**0.90**

[1] Assumes 0.0224 AFY of savings per HET based on 2010 Smart Rebates program contract attachment provided by CUWCC, assuming a 25 year lifespan (31). Note that MWD's program assumes 0.0425 AFY of savings per HET; to be consistent and conservative, these estimates assume 0.0224 AFY of savings per HET regardless of the rebate program.

6.2.13 BMP 4 COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL (DMM I)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *Implement measures to achieve the water savings goal for CII accounts of 10% of the baseline water use over a 10-year period. Baseline water use is defined as the water consumed by CII accounts in the agency's service area in 2008. Credit for prior activities, as reported through the BMP database, will be given for up to 50% of the goal; in this case, coverage will consist of reducing annual water use by CII accounts by an amount equal to the adjusted percentage goal within 10 years. Implementation shall consist of item 1) or 2) or both in order to reach the agency's water savings goals.*
>
> *1) Implement measures on the CII list with well-documented savings that have been demonstrated for the purpose of documentation and reporting. The full list and their associated savings are included in the "Demonstrated Savings Measure List" in Section E below.*
>
> *2) Implement unique conservation measures to achieve the agency's water savings goals. Sample measures include, but are not limited to: industrial process water use reduction, industrial laundry retrofits, car wash recycling systems, water-efficient commercial dishwashers, and wet cleaning. Water use reduction shall be calculated on a case-by-case basis. Agencies will be required to document how savings were realized and the method and calculations for estimating savings. See the CII Flex Track Menu list in the attachment to Exhibit 1, as updated in the MOU Compliance Policy and BMP Guidebook.*

6.2.13.1 CII Audits

The District offers free water use audits to commercial, industrial, and institutional (CII) customers. The audits are performed by the District's contractor. CII audits are customized and include a detailed onsite audit that evaluates the facility, water use patterns, and indoor water use. After the audit, the customer is provided with a detailed report containing the audit findings and a summary of recommendations specific to the property. The District began the program in 2010 and, as shown in Table 6-20, completed one CII audit in 2010 (21).

Because the District's CII audits are customized, the water savings differs for each site. Since there was only a single audit performed in 2010, the average savings is equivalent to the savings for that audit. In future years, more than one CII audit per year is expected, and thus average savings per audit will be calculated. The total water savings reported for future years will be the sum of the savings estimated for each of the audits. The average savings per audit is then calculated based on the number of surveys performed and the total estimated savings from all the audits.

The District plans to continue implementation of this BMP by providing CII audits, as shown in Table 6-21.

Table 6-20. Actual CII Audits

Actual	2006	2007	2008	2009	2010
Number of surveys completed	-	-	-	-	1
Were incentives provided?	-	-	-	-	Yes
Number of follow-up visits	-	-	-	-	-
Actual water savings – AFY[1]	-	-	-	-	6.79

[1] Assumes average savings of 6.79 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC (21).

Table 6-21. Planned CII Audits

Planned	2011	2012	2013	2014
Number of surveys planned	4	5	5	5
Are incentives planned?	Yes	Yes	Yes	Yes
Number of follow-up visits	-	-	-	-
Projected water savings - AFY	27.16	33.95	33.95	33.95

[1] Assumes average savings of 6.79 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC (21).

6.2.13.2 CII Rebates

In addition to CII audits, the District offers a variety of rebates to commercial customers through the CUWCC Smart Rebate program and MWD's Save a Buck Rebate program.

Through the CUWCC Smart Rebate program, commercial rebates are available for HETs, HECWs, high-efficiency urinals (HEUs), pressurized waterbrooms, and x-ray film processor re-circulation systems (21). According to available reports, there is no recorded participation in the Smart Rebate Program by commercial customers in the District.

Commercial customers have participated in MWD's Save a Buck Program since 2007, which is when the District first began participating in the program. The District's wholesalers act as the liaisons between the District and MWD. The Save a Buck Program offers a variety of rebates for CII customers, including rebates for HETs, ultra low and zero water urinals, HECWs, rotating nozzles (for sprinkler heads), smart controllers (also known as WBICs), pressurized waterbrooms, food equipment, and HVAC equipment. The program is fully funded by MWD.

The historical and projected number of commercial rebates through MWD's Save a Buck Program are shown in Table 6-22 and Table 6-23, respectively.

Table 6-22. Actual Commercial Rebates- Save a Buck Program

Actual	2006	2007[1]	2008	2009	2010
HET Dual Flushometer	-	-	-	-	-
HET Tank	-	-	-	-	-
HECW	-	-	-	-	-
Rotating Nozzle	-	-	1,907	1,907	-
Smart Controller (WBIC)	-	-	-	-	14
Zero Water Urinal	-	-	56	289	-
Food Steamer	-	-	-	-	1
Cooling Tower	-	-	-	-	2
Number of HET rebates	-	-	**1,963**	**2,196**	**17**
Actual water savings – AFY [2]	-	-	**15.26**	**43.85**	**1.72**

[1] Quantity of rebates was not reported in 2007 PUC report (28).

[2] Water savings are based on MWD's Save A Buck program documentation (33): HET Tank (0.0425 AFY/HET), HECW (0.1075 AFY/HECW), rotating nozzle (0.0044 AFY/nozzle), smart controller (0.0129 AFY/station), zero water urinal (0.1227 AFY/urinal), food steamer (0.2500 AFY/steamer), and cooling tower conductivity controller (0.6440 AFY/controller).

Table 6-23. Planned Commercial Rebates- Save a Buck Program

Planned	2011	2012	2013	2014
HET Dual Flushometer	-	-	-	-
HET Tank	-	5	5	5
HECW	-	5	5	5
Rotating Nozzle	-	-	-	-
Smart Controller (WBIC)	12	10	10	10
Zero Water Urinal	4	15	15	15
Food Steamer	-	-	-	-
Cooling Tower	-	-	-	-
Number of HET rebates	**16**	**35**	**35**	**35**
Actual water savings – AFY [1]	**0.65**	**2.72**	**2.72**	**2.72**

[1] Water savings are based on MWD's Save A Buck program documentation (33): HET Tank (0.0425 AFY/HET), HECW (0.1075 AFY/HECW), rotating nozzle (0.0044 AFY/nozzle), smart controller (0.0129 AFY/station), zero water urinal (0.1227 AFY/urinal), food steamer (0.2500 AFY/steamer), and cooling tower conductivity controller (0.6440 AFY/controller).

6.2.14 BMP 5 LANDSCAPE (DMM E)

According to Section A of the CUWCC MOU, implementation shall consist of at least the following actions (20):

> *Agencies shall provide non-residential customers with support and incentives to improve their landscape water use efficiency. Credit for prior activities, as reported through the BMP database, will be given for documented water savings achieved through 2008.This support shall include, but not be limited to, the following:*
>
> *1) Accounts with Dedicated Irrigation Meters*
>
> *a) Identify accounts with dedicated irrigation meters and assign ETo-based water use budgets equal to no more than an average of 70% of ETo (reference evapotranspiration) of annual average local ETo per square foot of landscape area in accordance with the schedule below.*
>
> *Recreational areas (portions of parks, playgrounds, sports fields, golf courses, or school yards in public and private projects where turf provides a playing surface or serves other high-use recreational purposes) and areas permanently and solely dedicated to edible plants, such as orchards and vegetable gardens, may require water in addition to the water use budget. (These areas will be referred to as "recreational" below.) The water agency must provide a statement designating those portions of the landscape to be used for such purposes and specifying any additional water needed above the water use budget, which may not exceed 100% of ETo on an annual basis.*
>
> *If the California Model Water Efficient Landscape Ordinance is revised to reduce the water allowance, this BMP will be revised automatically to reflect that change.*
>
> *b) Provide notices each billing cycle to accounts with water use budgets showing the relationship between the budget and actual consumption.*
>
> *c) Offer site-specific technical assistance to reduce water use to those accounts that are 20% over budget in accordance with the schedule given in Section B; agencies may choose not to notify customers whose use is less than their water use budget.*
>
> *2) Commercial/Industrial/Institutional (CII) Accounts without Meters or with Mixed-Use Meters*
>
> *a) Develop and implement a strategy targeting and marketing large landscape water use surveys to commercial/industrial/institutional (CII) accounts with mixed-use meters.*
>
> *b) In un-metered service areas, actively market landscape surveys to existing accounts with large landscapes, or accounts with landscapes which have been determined by the purveyor not to be water efficient.*
>
> *3) Offer financial incentives to support 1) and 2) above.*

The District offers its own landscape programs, as well as leverages programs and advertising offered through MWD. Landscaping rebates offered through MWD's Save a Buck Program were discussed under BMP 4 (Section 6.2.13.2).

The District offers free large landscape (LL) audits to non-residential customers, including commercial, industrial and institutional customers. The audits are performed by the District's contractor. LL audits are customized and include a detailed outdoor audit. After the audit, the customer is given a detailed report with analysis and recommendations, which includes a site-specific water budget and irrigation schedule. In 2010, the District completed 5 LL audits (21).

In 2011, the District is adding a new direct install program to the large landscape audit program. After an LL audit, the customer will receive recommendations and the District will directly install water-saving devices, including irrigation controllers.

Because the District's LL audits are customized, the water savings differs for each site. The total water savings reported for 2010 is the sum of the savings estimated for each of the audits. The average savings per audit was calculated based on the number of surveys performed and the total estimated savings from all the audits.

The LL audits completed are shown in Table 6-24. The District plans to continue implementation of this BMP, as shown in Table 6-25.

Table 6-24. Actual LL Audits

Actual	2006	2007	2008	2009	2010
Number of surveys completed	-	-	15	2	5
Number of budgets developed	-	-	15	2	5
Number of follow-up visits	-	-	-	-	-
Actual water savings – AFY[1]	-	-	66.30	8.84	22.10

[1] Assumes average savings of 4.42 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC (21).

Table 6-25. Planned LL Audits

Planned	2011	2012	2013	2014
Number of surveys planned	8	5	5	5
Number of budgets planned	8	5	5	5
Number of follow-up visits	-	-	-	-
Projected water savings – AFY[1]	35.36	22.10	22.10	22.10

[1] Assumes average savings of 4.42 AFY per audit based on average savings per audit in 2010, as reported in California American Water's 2010 Conservation Report to the CPUC (21).

In addition to LL audits, the District promotes outdoor water conservation through its California Friendly Drought Tolerant Demonstration Garden at the District's Newbury Park facility (26). The District also promotes MWD's landscape and irrigation programs.

The District has dedicated irrigation meters, but does not currently assign ETo-based water budgets, except for customers that receive an LL audit.

6.3 BMPS NOT IMPLEMENTED OR NOT SCHEDULED TO BE IMPLEMENTED

Currently BMP 1.1.3 is not being implemented and is not scheduled to be implemented. This BMP is not implemented or scheduled for implementation because it is not applicable to the District as a retail agency.

7 CLIMATE CHANGE

California's Global Warming Solutions Act of 2006 (AB 32) recognized climate change as a "serious threat to the economic well-being, public health, natural resources, and the environment of California" (34). Potential adverse impacts listed include sea level rise and reduced quality and supply of water from the Sierra snowpack (34). Following the passing of AB 32, city and county general plans, California Environmental Quality Act (CEQA) documents, and Integrated Regional Water Management Plans (IRWMPs) must consider climate change. The 2006 Watersheds Coalition of Ventura County (WCVC) IRWMP does not address climate change (35), but the IRWMP Update, which is currently being developed using grant funding from DWR, will include a climate change analysis (36).

The 2010 UWMP Act and 2010 UWMP Guidebook do not require climate change considerations in UWMPs, but do recommend considering IRWMP climate change objectives in the UWMP if applicable and available (1). Because the current WCVC IRWMP does not address climate change, the IRWMP cannot be used as a source for this section of the UWMP at this time. When the IRWMP climate change analysis is complete, this UWMP should be updated.

Recognizing that the impact of climate change on urban water systems is uncertain but potentially significant, mitigation and adaptation strategies are presented here to move towards reducing climate change impacts on the District.

7.1 MITIGATION

In the water sector, reducing energy use is the primary way to mitigate climate change (1). This includes energy efficiency, renewable energy generation, and water conservation. Energy is required to move, treat, use, and discharge water; thus, decreasing water use leads to a reduction in overall energy use.

An estimate of the greenhouse gas (GHG) emissions resulting from electricity use for pumping and treating water is carried out in Section 7.1.1 to illustrate potential GHG reduction strategies. The GHG analysis is provided for illustrative purposes and is not comprehensive. The analysis provides an estimate of the GHGs emitted as a result of treating and delivering water to the District's customers, but does not include GHGs associated with treating and discharging wastewater, the fuel use of the vehicle fleet, or the energy use of other District facilities and buildings. For the Ventura County District, the analysis incorporates the GHGs associated with electricity use by the District to distribute water to customers, termed physical energy, and the GHGs associated with the electricity that was used by other agencies to treat and deliver water to the District, termed the embedded energy (37).

(1) Physical Energy: To determine the GHGs associated with the physical energy use, the quantity of electricity (kWh) currently used by the District and the corresponding emission factor for that electricity (lbs CO_2/kWh) must be obtained.

(2) Embedded Energy: Estimating the GHGs associated with the embedded energy of the imported water involves determining the amount of energy (kWh/AF) used to move water from its original source to the District's system, as well as the amount of energy used by other agencies to treat the water. The source of electricity at each location of energy input (e.g. pump station) determines the emissions factor of the electricity that was consumed at that location (lbs CO_2/kWh). The sum of the GHG emissions associated with each location where electricity was consumed yields the total GHG emissions associated with the embedded energy in the water.

The sum of the GHGs associated with the physical energy use and the embedded energy in the water gives a reasonable estimate of the District's GHG emissions associated with pumping and treatment energy. Implementing energy efficiency, renewable energy generation, and/or water conservation has the potential to decrease GHG emissions in the future.

7.1.1 GHG Estimate

The District's supply is imported from CMWD. CMWD purchases SWP water from MWD and delivers it to the District. Figure 7-1 shows the energy intensity of the water as it flows from the SWP to California American Water's customers in the District. The following descriptions explain Figure 7-1.

(1) State Water Project (SWP): According to a 2010 study sponsored by the California Public Utilities Commission (CPUC), the embedded energy in the water as it exits the West Branch of the SWP is 2,563 kWh/AF (37).
(2) Metropolitan Water District of Southern California (MWD): Under normal operating conditions, it is assumed that MWD supplies CMWD only with SWP water and MWD's supply from CRA and local sources is not pumped to CMWD. Little energy is used by MWD to convey water imported from the SWP since it is primarily delivered by gravity after it gets over the Tehachapi Mountains (37); thus, the energy used by MWD for conveyance is assumed to be zero. MWD treats imported water from the SWP's West Branch at the Jensen Water Treatment Plant which is estimated to use approximately 46 kWh/AF (38). Energy use for the Jensen Water Treatment Plant is for the entire facility, including administration and maintenance services which support the treatment plant.
(3) CMWD: Under normal operating conditions, gravity moves the imported water through CMWD's system to the District; thus, CMWD does not use any energy to deliver water to the District (39).
(4) District: Based on data provided by California American Water for the years 2006-2008, the District used an average of 121 kWh/AF for water deliveries; thus, it is assumed that the District uses 121 kWh/AF to deliver water to its customers.

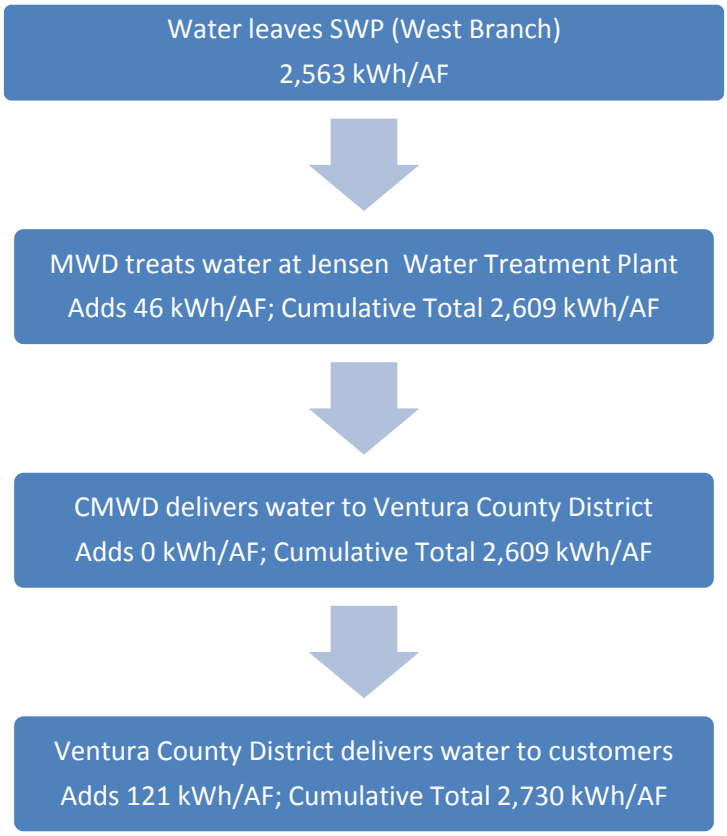

Figure 7-1. Energy Intensity of Water Supply

Table 7-1 shows the amount of energy used in terms of physical energy use and embedded energy. From Figure 7-1, the total cumulative energy used to deliver treated water to California American Water's customers is approximately 2,730 kWh/AF. Note that this total energy use includes only pumping and treatment energy. Of this total, approximately 121 kWh/AF is the physical energy as it is used directly by California American Water. Approximately 2,609 kWh/AF is the embedded energy as it is used by other agencies to obtain, treat, and move the water to California American Water's system.

Table 7-1. Physical and Embedded Energy Intensity of Water Delivered to the District

Energy Use	Energy Intensity (kWh/AF)
Physical energy	121
Embedded energy	2,609
Total	**2,730**

The electricity is provided by various electric utilities, including wholesale power suppliers, as the water is moved from the Bay-Delta (SWP) to MWD, CMWD, and, ultimately, the District. For this UWMP, an estimate of the average emissions factor for electricity consumed in California is used. The emissions factor is estimated to be 0.9 lbs CO_2/kWh based on the electric power emissions and electricity consumed in California from 2000 to 2008 (40). This factor is used to estimate the historical emissions (1996-2010) associated with both physical energy use and embedded energy.

In 2009, the CPUC sponsored a study to forecast future GHG emissions from California's electricity sector through 2020 (41). The accelerated policy case in the report assumes the state's Renewable Portfolio Standard (RPS) of 33% renewable generation by 2020 is achieved and estimates that the emissions factor will drop to 0.507 lbs CO2/kWh in 2020 (41). For GHG projections, linear interpolation was used to estimate the emissions factors for years between 2010 and 2020, assuming 0.9 lbs CO2/kWh for 2010 and 0.507 lbs CO2/kWh for 2020. The emissions factor for 2020 forward is assumed to be 0.507 lbs CO2/kWh.

Using the historical water use, along with the estimated emissions factor and energy use described above, historical GHG emissions for the District were estimated. Figure 7-2 shows the estimated GHG emissions of the District from 1996 through 2010. Future GHG emissions assuming SB7 targets are achieved and the electricity emissions factor decreases to 0.507 lbs CO2/kWh by 2020 are shown in Figure 7-3. Emissions are shown as a percentage of the average calculated annual emissions over the most recent 5-year period, 2006-2010, which is estimated to be approximately 23,000 tons CO2.

A summary of the assumptions used to generate Figure 7-2 and Figure 7-3 are listed below:

(1) For all years shown (1996-2030), 100% of supply is assumed to come from SWP via MWD and CMWD.
(2) The energy intensity of the SWP supply is assumed to be constant at 2,563 kWh/yr.
(3) The energy intensity of the Jensen Water Treatment Plant is assumed to be constant at 46 kWh/AF.
(4) CMWD is assumed to add no additional energy for water delivery of SWP water to California American Water, thus relying solely on gravity.
(5) The energy used by California American Water for distribution within the District is assumed to be constant at 121 kWh/AF. This does not take into consideration renewable energy generation by the District, such as hydropower or solar photovoltaic (PV) systems.
(6) The emissions factor for all electricity used from 1996-2010, including that used by the SWP, MWD, CMWD, and the District, is assumed to be constant at 0.9 lbs CO2/kWh.
(7) The emissions factor for all electricity used is assumed to decrease to 0.507 lbs CO2/kWh by 2020 due to RPS targets. Linear interpolation was used to estimate the emissions factors for years between 2010 and 2020, assuming 0.9 lbs CO2/kWh for 2010 and 0.507 lbs CO2/kWh for 2020. The emissions factor for 2020 forward is assumed to be 0.507 lbs CO2/kWh.
(8) The production for years 1996-2010 is based on data provided by California American Water. The production for years 2011-2030 is calculated based on projected population (shown in Figure 2-2) and calculated gpcd based on SB7 requirements (shown in Figure 3-1).

(9) The GHG estimates include those associated with pumping and water treatment energy use only and do not include emissions associated with wastewater treatment and discharge, fuel use of vehicles, or energy use of other facilities and buildings; thus, the GHG estimates do not represent the total GHG footprint for the District.

(10) A value of 100% is equivalent to approximately 23,000 tons CO_2, which represents the average calculated annual emissions over the years 2006-2010.

(11) GHGs were estimated based on available data and are intended to be used for illustrative purposes.

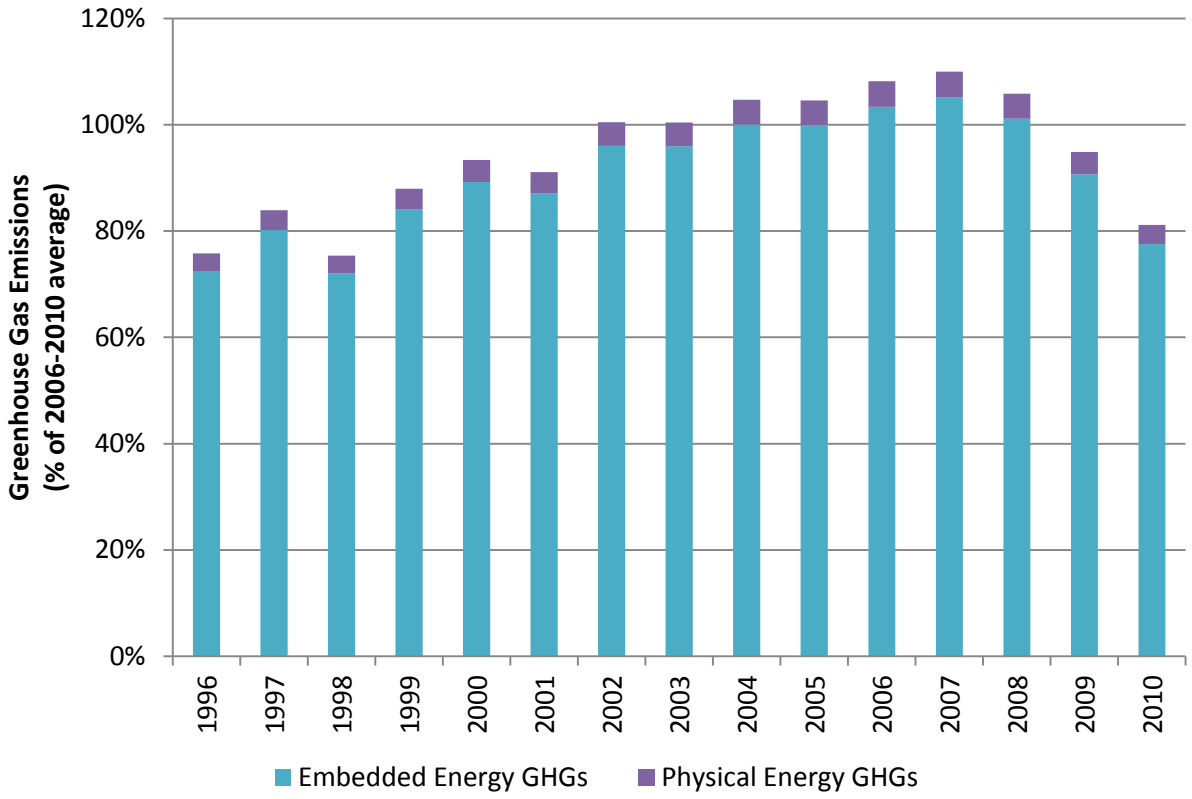

Figure 7-2. Estimated GHG Emissions for the District for 1996-2010

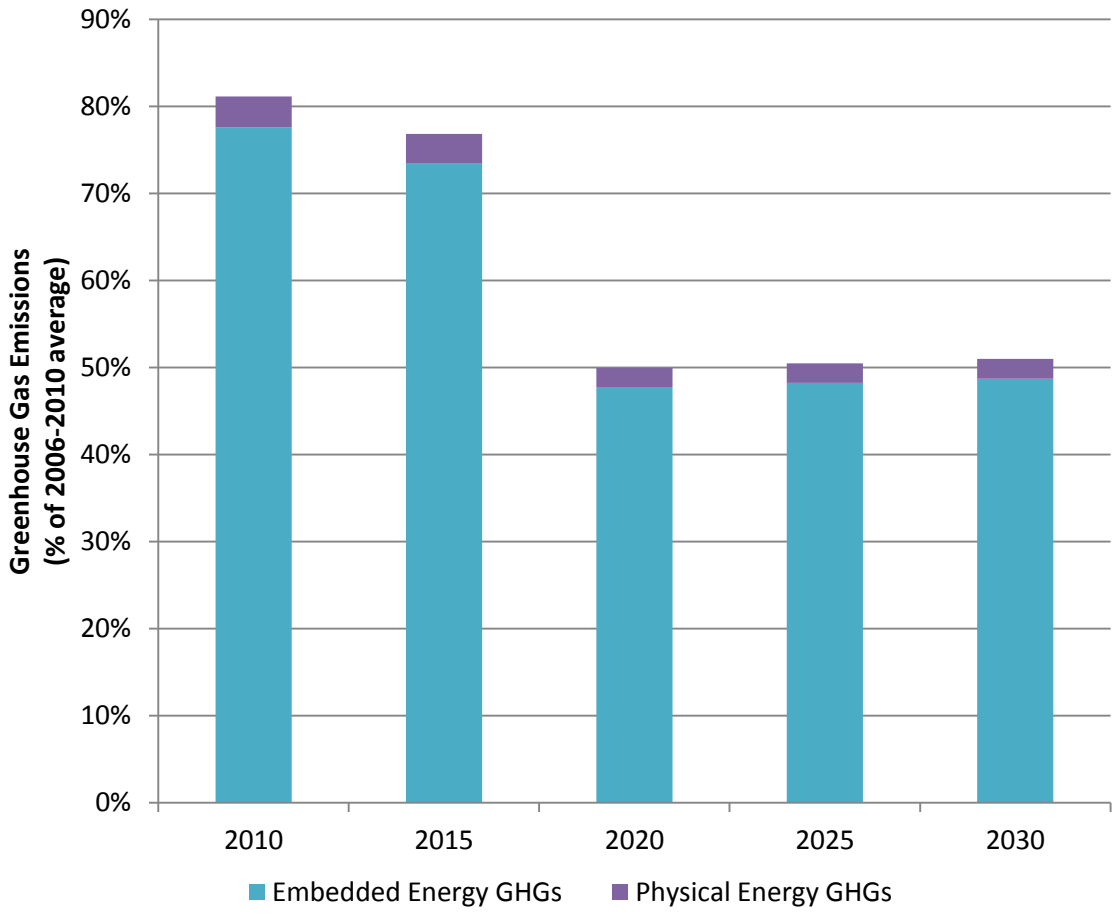

Figure 7-3. Estimated Current and Projected GHG Emissions for 2010-2030 for the District Assuming SB7 Targets and Reduced Emissions Factors due to RPS

Looking ahead at future scenarios provides insight into mitigation strategies. Three scenarios for 2020 are illustrated in Figure 7-4:

(1) Status quo (assumes SB7 targets and reduced electricity emissions factors due to RPS goals (0.507 lbs CO2/kWh by 2020) as described above).
(2) Status quo with 10% increase in energy efficiency by the District and wholesalers by 2020.
(3) Status quo with renewable generation by the District (60 MWh/year from solar PV and 800 MWh/year from in-conduit hydropower by 2020), in addition to 10% increase in energy efficiency by the District and wholesalers by 2020.

Like the figures above, GHG emissions in Figure 7-4 are shown as a percentage of the average calculated annual emissions over the most recent 5-year period, 2006-2010, which is estimated to be approximately 23,000 tons CO2.

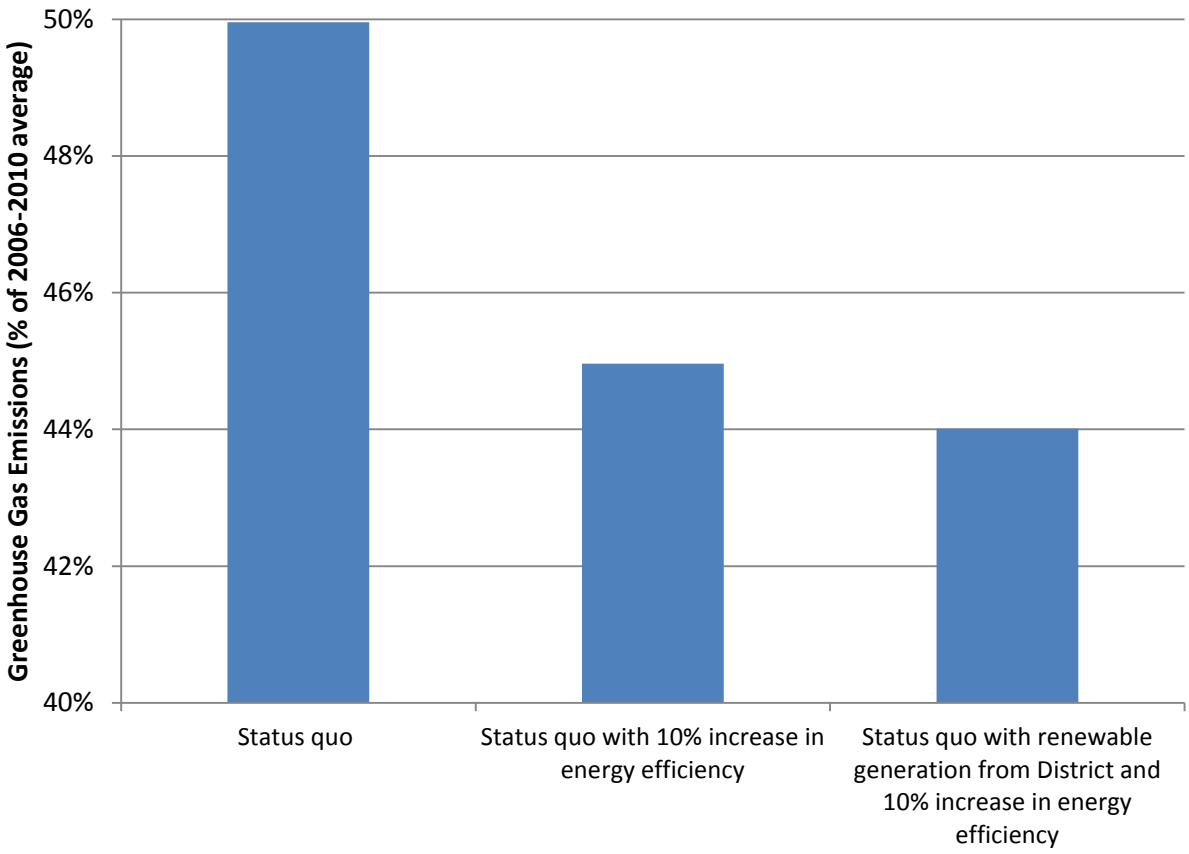

Figure 7-4. GHG Mitigation Scenarios Example

Figure 7-4 shows that in addition to water conservation, energy efficiency is a powerful GHG mitigation strategy. After energy efficiency improvements are made, renewable generation by the District can provide further GHG reductions and new revenue opportunities.

7.2 ADAPTATION

While the exact effects of climate change are uncertain, climate change will undoubtedly impact the District over the long term. For example, DWR expects that climate change will affect water demand, water supply and quality, sea level, and frequency of natural disasters statewide (1).

DWR recommends that water agencies consider the following climate change effects when establishing long-term plans, as shown in Table 7-2 (1):

Table 7-2. Potential Effects of Climate Change on Water Systems

Climate Change	Potential Effect on Water System
Hotter days and nights, longer irrigation season, increase in landscaping water needs, increased cooling water needs for power plants and industrial facilities	Increased water demand
Reduced snowpack, earlier spring runoff, increased potential for algal bloom	Reduced or compromised supply (lower water quality)
Sea level rise, more extreme tides	Compromised supply; Stress on levees near sea; increased potential for seawater intrusion
Increased frequency and severity of natural disasters (including droughts, floods, wildfires)	Larger variability in supply; Increased stress on infrastructure

In the California Water Plan Update 2009, DWR considers 12 different climate change scenarios to predict water demand changes for three growth scenarios (42). Each climate change scenario has separate estimates of future precipitation and temperature. When climate change is considered, all three growth scenarios showed higher annual water demands than under a repeat of historical climate (42).

7.2.1 Adaptive Management

The effects of climate change on the District are difficult to predict due the complexity of factors, including the uncertainty in future temperature, the District's close proximity to the ocean and the District's reliance on imported water that is transported through multiple water agency systems. Dealing with uncertainties like these requires an approach that is both flexible and robust. The recommended method to adapt to climate change effects on water systems is adaptive management. While adaptive management has been used in traditional water supply planning (43), it is also capable of integrating climate change uncertainties into water system management. The goal of adaptive management is to, "embrace uncertainty, accepting partial understanding of processes, and producing policies and designs that are less sensitive to the unexpected" (43).

Adaptive management is a continuous cycle consisting of four steps: (1) plan, (2) act, (3) monitor, and (4) evaluate, as shown in Figure 7-5 (43).

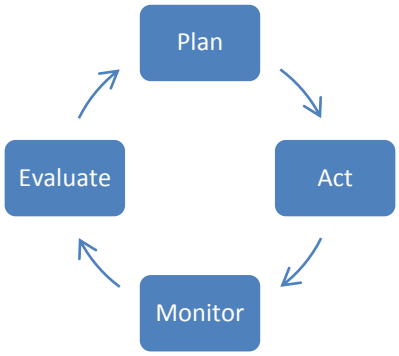

Figure 7-5. Adaptive Management Process

Evaluation results feed back into planning and the iteration process continues, yielding a closed-loop management process. This framework encourages future decisions that are based on actual results.

Table 7-3 shows four possible climate change effects that could impact the District and how the adaptive management process could be used to respond to them.

Table 7-3. Adaptive Management Scenarios

Example	Plan	Act	Monitor	Evaluate
Sea Level Rise	Sea level rise could cause seawater intrusion into Delta (breach levees), which could reduce SWP supply and quality; Identify ways to reduce potable water demand	Partner with cities to pursue delivery of reclaimed water to the District to be used for irrigation to reduce potable water demand	Evaluate feasibility, reliability and cost-effectiveness of reclaimed water	Determine if reclaimed water infrastructure is feasible for District; Use results to plan for future
Reduced snowpack	Less snow and more rainfall could result in increased spills out of Delta in winter and reduced SWP supply in summer and fall; Identify sources of supply less dependent on climate	Secure desalinated water supplies or partner with other agencies to pursue desalination	Evaluate reliability and cost-effectiveness of supply	Determine if desalinated water is a preferred long-term supply alternative; Use results in long-term supply planning
Flood in Delta	Island flooding could reduce SWP exports; Identify other sources of supply, including water transfers	Pursue water transfers through MWD or Calleguas MWD programs	Evaluate feasibility, reliability and cost-effectiveness of alternative supplies	Determine whether long-term agreements for water transfers are feasible and reliable; Use results to plan for future floods
Increased Temperature & Demand	Identify and predict periods of increased temperature; Develop potential alternatives to increase supply and/or decrease demand	Implement potential alternatives (e.g. implement water conservation programs, secure other sources of supply)	Collect data on success of water conservation programs; Monitor cost-effectiveness of chosen alternative supplies	Determine if increased demand was caused by increased temperatures or other factors; Use results to plan for future periods of high temperature

As the District encounters climate change impacts, employing the adaptive management process allows the District to manage these impacts on a continuous basis by evaluating alternatives, testing hypotheses, determining causes, and incorporating results into planning.

8 REFERENCES

1. **California Department of Water Resources.** *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan .* March 2011.

2. —. *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use.* February 2011.

3. **Southern California Association of Governments.** SCAG Population Projections. 2008.

4. **City of Thousand Oaks.** 2006-2014 Housing Element, Thousand Oaks General Plan. April 13, 2010.

5. **Ventura County.** Ventura County General Plan. Last Amended April 6, 2010.

6. **California American Water.** Direct Testimony of Brian K. Bruce in California American Water's General Rate Case Application before the Public Utilities Commission. Dated: May 3, 2010.

7. **Metropolitan Water District of Southern California.** Regional Urban Water Management Plan. November 2010.

8. —. Regional Urban Water Management Plan. November 2005.

9. **Black & Veatch.** *2010 Urban Water Management Plan Prepared for Calleguas Municipal Water District.* 2011.

10. **California American Water.** *Village District Comprehensive Planning Study.* 2006.

11. —. *Ventura District Urban Water Management Plan 2006-2010 Revised Final.* October 2010.

12. **Environmental Protection Agency.** *Statement of Basis/Final Decision and Response to Comments Summary_Talley Corporation, Newburry Park CA.* 1993.

13. **Calleguas Municipal Water District.** Calleguas Regional Salinity Management Pipeline.

14. **City of Thousand Oaks.** City of Thousand Oaks. *Hill Canyon Wastewater Treatment Plant.* [Online] [Cited: May 2, 2011.] http://www.toaks.org/government/depts/public_works/hctp.asp.

15. **City of Oxnard.** A Roadmap Towards Sustainable Water Supplies. *City of Oxnard-Public Works Department-Water Section.* [Online] [Cited: May 3, 2011.] http://publicworks.cityofoxnard.org/Department.aspx?DepartmentID=14&DivisionID=99&ResourceID=485.

16. **Montgomery Waston Harza.** *City of Thousand Oaks Wastewater Interceptor Master Plan Final Report.* 2002.

17. **California American Water Company, Ventura Operations.** *Emergency Response Plan.* January 2010.

18. **California American Water.** Annual Consumer Confidence Report-Thousand Oaks/Newburry Park. 2009.

19. **Environmental Protection Agency.** EPA and HHS Announce New Scientific Assessments and Actions on Fluoride / Agencies working together to maintain benefits of preventing tooth decay while preventing excessive exposure . *Environmental Protection Agency.* [Online] [Cited: May 12, 2011.] http://yosemite.epa.gov/opa/admpress.nsf/3881d73f4d4aaa0b85257359003f5348/86964af577c37ab285257811005a8417!OpenDocument.

20. **California Urban Water Conservation Council.** *Memorandum of Understanding Regarding Urban Water Conservation in California.* June 9, 2010.

21. **California American Water.** Water Conservation Program 2010 Annual Summary Report. March 2011.

22. —. Ventura District 2010 BMP 1.2 Water Loss Control Report to CUWCC. 2010.

23. —. Email correspondence with Patrick Pilz. October 19, 2011.

24. —. Schedule No. CO-1, Village District Tariff Area, Advice Letter No. 866. Filed December 14, 2010, Effective January 1, 2011.

25. **California American Water Company.** 2009 Annual Report of District Water System Operations of California American Water Company Ventura (Village) District To The Public Utilities Commission of the State of California. For the Year Ended December 31, 2009.

26. **California American Water.** California American Water's Ventura Service Area 2008 Report to PUC. 2008.

27. Association of Water Agencies Ventura County. *Home.* [Online] [Cited: June 28, 2011.] http://www.awavc.org/.

28. **California American Water.** 2007 CPUC Annual Report Schedule E-3, Description of Water Conservation Program, CAW District-Ventura. 2007.

29. **Metropolitan Water District of Southern California.** What do you know about H2O? [Online] 2009. [Cited: June 2011, 20.] http://www.mwdh2o.com/mwdh2o/pages/education/h2o/h2o.html.

30. Spreadsheet Provided By California American Water, Filename: MWD Residential 2010YearEnd 2011 01 31 (2).xls. January 31, 2011.

31. Spreadsheet Provided by California American Water, Filename: WaterSavings.CUWCC.2010Contract.Attachment.xls. June 10, 2011.

32. **Environmental Protection Agency.** WaterSense Specifications for Tank-Type Toilets. May 20, 2011. Version 1.1.

33. **Metropolitan Water District of Southern California.** Water savings for devices available through the Save Water- Save A Buck program. December 10, 2009.

34. California Assembly Bill No. 32. 2006. Chapter 488.

35. **Watersheds Coalition of Ventura County.** Integrated Regional Water Management Plan. 2006.

36. —. Proposition 84 Planning Grant Application. September 27, 2010.

37. **GEI Consultants, Inc./Navigant Consulting, Inc.** *Embedded Energy in Water Studies, Study 1: Statewide and Regional Water-Energy Relationship.* s.l. : California Public Utilities Commission, 2010. CALMAC Study ID CPU0035.01.

38. **Metropolitan Water District of Southern California.** Correspondence with Jon Lambeck. May 16, 2011.

39. **Calleguas Metropolitan Water District.** Conversation with Manager of Operations and Maintenance. May 9, 2011.

40. **California Air Resources Board.** Trends in California Greenhouse Gas Emissions for 2000 to 2008. May 28, 2010.

41. **California Public Utilities Commission, Prepared by Energy and Environmental Economics, Inc.** Greenhouse Gas Modeling of California's Electricity Sector to 2020: Updated Results of the GHG Calculator Version 3. October 2009.

42. Chapter 5- Managing an Uncertain Future. *California Water Plan Update 2009.* s.l. : California Department of Water Resources, 2009. Bulletin 160-09.

43. **Skaggs, Richard L, Vail, Lance W and Shankle, Steve.** Adaptive Management for Water Supply Planning: Sustaining Mexico City's Water Supply. [book auth.] Larry W Mays. *Urban Water Supply Handbook.* New York : McGraw-Hill, 2002.

APPENDIX A. BASELINE DAILY PER CAPITA USE MEMORANDUM

Technical Memorandum

Date: 7/5/2011

To: Mark Reifer, P.E.
California American Water
8657 Grand Ave.
Rosemead, CA 91770

Phone: (626) 614-2517

CC: Monica Na; Patrick Pilz

Prepared by: Daniel Heimel, E.I.T.

Reviewed by: Jeffery Szytel, P.E.

Project: 2010 Urban Water Management Plan for the Southern Division-Ventura County District

SUBJECT: **BASELINE DAILY PER CAPITA WATER USE**

This memorandum presents the procedure used by California American Water's Southern Division Ventura County District to meet the requirements of Senate Bill x 7-7 (SB7) as defined in the Water Conservation Act of 2009 and incorporated into Division 6 of the California Water Code, commencing with Section 10608 of Part 2.55.

Background

On November 10, 2009, Governor Arnold Schwarzenegger signed Senate Bill x 7-7 into law. The legislation requires all water suppliers to achieve a reduction in per capita water use of 20% by December 31, 2020, with an interim target of 10% reduction by December 31, 2015. The legislation requires each urban water supplier to develop, and include in its Urban Water Management Plans (UWMPs), estimates of: 1) *baseline* daily per capita water use; 2) daily per capita water use *target*; 3) daily per capita water use *interim target*; and 4) *compliance* daily per capita water use. The UWMP must also include bases for determining the estimates, with references to supporting data. However, SB 7 did not include a detailed description of the allowable methodologies for determining the required values. Instead, it required California Department of Water Resources (DWR) to develop appropriate methodologies and criteria, and to make them available to water suppliers no later than October 1, 2010. In consideration of this delay, the bill extended the deadline for adoption of the 2010 UWMP to July 1, 2011.

In connection with preparation of California American Water's Ventura County District 2010 UWMP update, California American Water hired Water Systems Consulting, Inc. (WSC) to develop the required estimates described by SB 7. Consistent with the requirements outlined in DWR's *Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan*, compliance is calculated for the Ventura County District as a whole. California American Water directed WSC to apply methodologies consistent with those described in the *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* guidebook

(Methodologies Guidebook). The selected procedure used to develop the required SB7 estimates includes the following basic steps:

1. Calculate baseline water use, which is the average gross daily water use per capita, reported in gallons per capita per day, based on gross water use and District population for a continuous 10-year period ending no earlier than December 31, 2004
2. Calculate urban water use target using one of the four methods described below
3. Check and confirm the urban water use target using the five-year running average
4. Calculate the interim urban water use target (equal to the average of the baseline and confirmed urban water use target)
5. Calculate the compliance daily per capita water use (equal to the gross daily water use per capita during the final year of the reporting period (i.e. 2010))

DWR allows the urban water supplier to choose one of four different methods to calculate the urban water use target in Step 2 above.

- **Method 1** involves calculating the target based on 80% of baseline daily per capita water use and the interim target based on 90% of the baseline daily per capita water use.
- **Method 2** involves calculating the per capita daily water use by using the sum of performance standards applied to indoor residential use, landscaped area water use, and commercial, industrial, and institutional uses.
- **Method 3** calculates the water use target as 95% of the applicable state hydrologic region target as stated in the draft 20x2020 Water Conservation Plan. California American Water's Ventura County District's service areas are located in the South Coast hydrologic region number 4 as defined in the State's 20x2020 Water Conservation Plan.
- **Method 4** is an approach developed by DWR to estimate water savings factors associated with implementation of various conservation measures, and use those factors to calculate water use targets.

Gross Water Use

SB 7 defines gross water use as:

> *"The total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following: (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier; (2) The net volume of water that the urban retail water supplier places into long-term storage; (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.; (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24."*

Purchased water is the only source of water in California American Water's Ventura County District. From 1996 through the present, California American Water has not stored any water long-term or sold any water to other agencies. Therefore, gross water use is simply the total water purchased by California American Water.

Populations

GIS shapefiles with census populations by census block were obtained from the Southern California Association of Governments (SCAG) and the United States Census Bureau, for 1990, 2000 and 2010. These GIS shapefiles contained census populations separated into census blocks covering the Ventura region. Although spatial population distribution within each census block can vary based on development and land use patterns, WSC assumed that the distribution of population within each census block was uniform. The California American Water service area boundaries were intersected with the census block boundaries to calculate the area of each block within California American Water's service areas. WSC then applied a persons per acre factor, determined from the relevant Census, to each intersecting block. Finally, the calculated population of each block within California American Water's service area was summed up to provide populations by service area for 1990, 2000, and 2010. Linear interpolation was used to determine the population for years in between the census years. Populations for 1994 through 1999 were calculated by linear interpolating between the 1990 and 2000 census populations. Populations for 2001 through 2009 were calculated by linear interpolating between the 2000 and 2010 census populations.

In 2010, there were approximately 899 census blocks within the Ventura County District. Figure 1 shows the 2010 census blocks in relation to California American Water's service area boundaries.

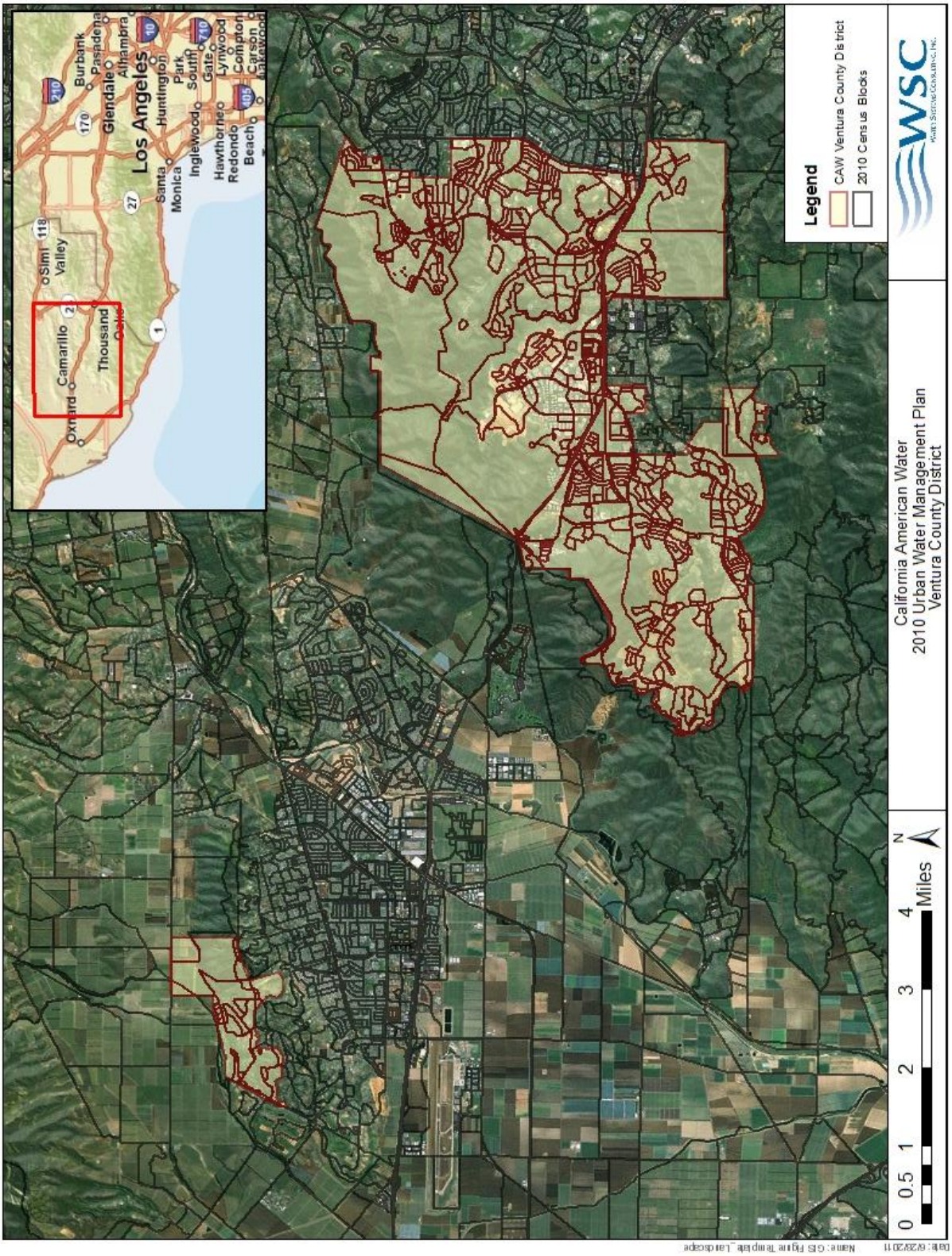

Figure 1. California American Water Service Area Boundaries with 2010 Population Data

Baseline Per Capita Water Use

WSC calculated per capita water use using gross water use values and the population estimates shown in Table 1. The annual per capita water use value was averaged across 10-year periods ranging from 1996-2005 through 2001-2010. Figure 2 shows the historical population estimates, along with the annual per capita water use for the years 1996 through 2010.

Table 1. Baseline Daily Per Capita Water Use[1]

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	10 year running average (gpcd)
1994	52,991	n/a	n/a	
1995	53,467	n/a	n/a	
1996	53,944	12.7	235	
1997	54,420	14.0	258	
1998	54,897	12.6	230	
1999	55,373	14.7	265	
2000	55,850	15.6	279	
2001	56,479	15.2	270	
2002	57,109	16.8	294	
2003	57,738	16.8	291	
2004	58,368	17.5	300	
2005	58,997	17.5	296	272
2006	59,626	18.1	303	279
2007	60,256	18.4	305	283
2008	60,885	17.7	291	289
2009	61,515	15.9	258	289
2010	62,144	13.6	218	283
Base Daily Per Capita Water Use				**289**

[1] The population estimates for California American Water's service areas are based on 1990, 2000 and 2010 census data. Populations for years in between Census years were calculated using linear interpolation.

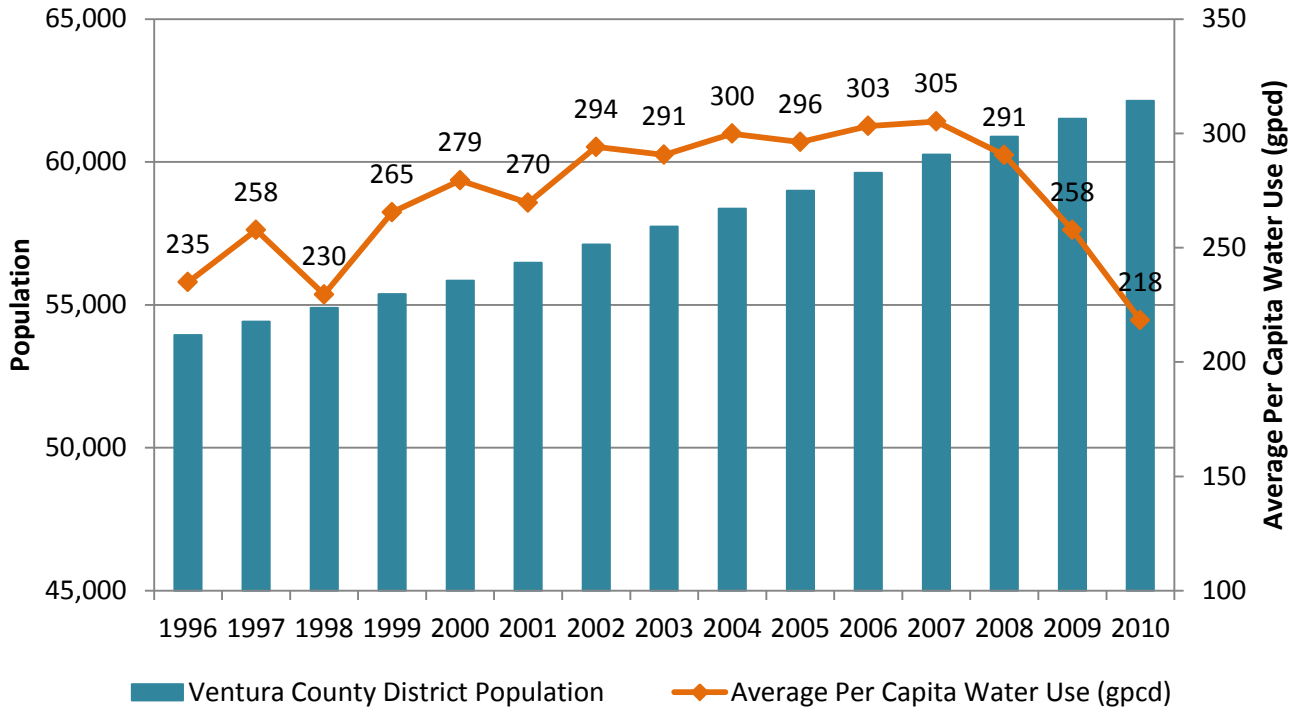

Figure 2. Historical Population and Per Capita Water Use for the Ventura County District[1]

Water Use Targets

The per capita water use target estimates are calculated using Method 1, Method 3, and Method 4 from the Methodologies Report. Method 2 was not applied because data for all landscape parcels in the District was not available. Table 2 shows the estimated daily per capita water use targets for each method analyzed.

[1] The population estimates for California American Water's service areas are based on 1990, 2000 and 2010 census data. Populations for years in between Census years were calculated using linear interpolation.

Table 2. Daily Per Capita Water Use Targets

Calculation Method	Water Use Target (gpcd)
Method 1: 80% of Baseline Per Capita Water Use	232
Method 2: Performance Standards	Not calculated
Method 3: 95% of Regional Target	142
Method 4: DWR Approach	234
Selected Urban Water Use Target	**234**

Since 2008, the District's per capita water use has been experiencing a decline. As shown in Table 2, the City's per capita water use in 2010 was already below the 2020 target. However, this 2010 level of water use is likely to be somewhat temporary due to the water use impacts of the recent poor economic conditions. A partial rebound to prior per capita water use levels may occur if economic conditions improve.

Minimum Water Use Reduction Requirements

The selected target must be less than 95% of a selected five-year running average ending no earlier than December 31, 2007 and ending no later than December 31, 2010 per the requirements of California Water Code Section 10608.22. Table 3 shows the five-year running averages, with the selected 5-year running average of 299 gpcd. Table 4 shows that the selected target from Table 2 meets the minimum water use reduction requirement; that is, the selected target of 234 gpcd is less than 95% of 299 gpcd. Thus, the confirmed water use target is set to 234 gpcd. Table 5 shows the final baseline, compliance, interim target, and target per capita water use. Table 6 shows the status of meeting the interim target and target based on current compliance per capita water use. The values shown will be reported in California American Water's 2010 Ventura County District UWMP.

Table 3. Minimum Water Use Reduction[1]

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	5 year running average
2003	57,738	17	291	
2004	58,368	18	300	
2005	58,997	17	296	
2006	59,626	18	303	
2007	60,256	18	305	299
2008	60,885	18	291	299
2009	61,515	16	258	291
2010	62,144	14	218	275
Base Daily Per Capita Water Use				**299**

Table 4. Target Confirmation

Parameter	Value
Selected Urban Water Use Target (gpcd)	234
95% of 5-year Base Daily Per Capita Water Use (gpcd)	284
Selected Urban Water Use Target < 95% of 5-year Base GPCD	Yes
Confirmed Urban Water Use Target (gpcd)	**234**

Table 5. Baseline, Compliance, Interim Target, and Target Water Use

Parameter	Water Use (gpcd)
Base Daily Per Capita Water Use	289
2010 Daily Per Capita Water Use	218
2015 Interim Urban Water Use Target	262
2020 Urban Water Use Target	234

[1] The population estimates for California American Water's service areas are based on 2000 and 2010 census data. Populations for years in between Census years were calculated using linear interpolation.

Table 6. Water Use Reduction Status

Water Use Reduction (on gpcd basis)	% Reduction[1]
Achieved by 2010	24.6%
Needed to meet 2015 target	-19.8%
Needed to meet 2020 target	-7.1%

[1] A negative % means the compliance is currently lower than the target.

Figure 3 shows the historical, baseline, targets, compliance, and projected per capita water use for the Ventura County District. The project per capita water use demand for 2011 selected to be equal to the average per capita demand for the most recent 5 year period, 2006-2010, which was determined to be 275 gpcd. The gpcd values for 2011-2014 were determined using a linear interpolation between the 2011 gpcd and the interim target gpcd for 2015. The gpcd values for 2016-2019 were then determined through linear interpolation of the 2015 and 2020 target gpcd values.

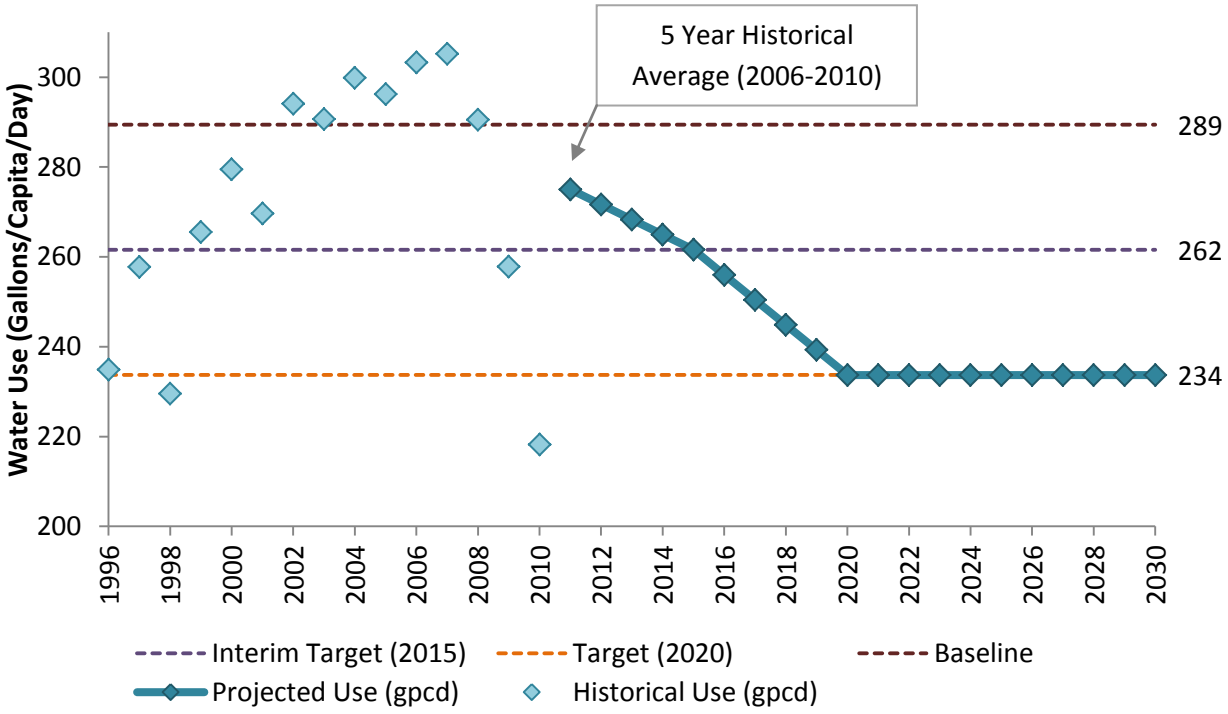

Figure 3. Historical Per Capita Water Use, Baseline, and Targets

APPENDIX B. DWR REVIEW SHEET CHECKLIST

Table I-2 Urban Water Management Plan checklist, organized by subject

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
PLAN PREPARATION				
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		Sections 1.1 and 1.2; Table 1-2
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		Section 1.2
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		Section1.2; Appendix F
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Section 1.2
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		Section 1.1; Appendix D; Appendix G; Table 1-3
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Section 1.2; Appendix D

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Section 1.2; Appendix E
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Section 0
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		Section 1.2
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		Section 1.2
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Section 2.1
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Section 2.1.1 and 2.2
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	Section 2.2; Table 2-4; Figure 2-2
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	Section 2.2; Table 2-4; Figure 2-2
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Section 2.2
SYSTEM DEMANDS				
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		Appendix A

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	Section 1.2; Appendix A
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		No standardized form available in section 10608.40
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	Section 3.2
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	Section 3.3; Appendix D
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		Section 3.2.1
SYSTEM SUPPLIES				
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	Section 4.1

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 4.2
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		Not applicable
16	Describe the groundwater basin.	10631(b)(2)		Not applicable
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		Not applicable
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Not applicable
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Not applicable
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		Not applicable
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	Not applicable
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Section 4.3

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		Section 4.7
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 4.5
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		Section 4.6
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		Section 4.6.1
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		Section 4.6.1
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		Section 4.6
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		Section 4.6.3
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)		Section 4.6.3
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		Section 4.6

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		Section 1.2.1 and 4.6
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING [b]				
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		Section 5.1.3
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		Section 5.1.2
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		Section 5.1.1
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		Section 5.3
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		Section 5.3.4
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		Section 5.3.3
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		Section 5.3.2

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		Section 5.3.2
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Section 5.3.2
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		Section 5.3.5
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Section 5.3.8
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Section 0
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	Section 5.4
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		Section 5.3.7
DEMAND MANAGEMENT MEASURES				
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Section 6

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		Section 6
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	Section 6
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Section 6

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

APPENDIX C. CUWCC BMP ANNUAL REPORT

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Base Year Data

Link to FAQs

Reporting Unit Base Year

What is your reporting period? Calendar

Base Year: 2008

BMP 1.3 Metering

Number of unmetered accounts in Base Year: 0

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year: 19,260

Number of Multi Family Units in Base Year: 150

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992:

Number of Multi Family Units prior to 1992:

Average number of toilets per single family household: 2.5

Average number of toilets per multi family household: 1.26

Five year average resale rate of single family households: 5.08

Five-year average resale rate of multi family households: .88

Average number of persons per single family household: 2.75

Average number of persons per multi family household: 3

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts: 1253

Number of accounts with dedicated irrigation meters: 0

Number of CII accounts without meters or with Mixed Use Meters: 698

Number of CII accounts: 698

Comments:

version 1.0

The fields in red are required.

Primary contact:

Agency name: CALIFORNIA AMERICAN WATER

First name: PATRICK

Division name (Reporting unit): VENTURA

Last name: PILZ

Reporting unit number: 7008

Email: patrick.pilz@amwater.com

WATER SOURCES

2009

Service Area Population: 68,113 — Total services X 3.333

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Groundwater	
		Groundwater	GROUNDWATER WELLS
		Groundwater	GROUND WATER WELLS
		Groundwater	GROUNDWATER WELLS
		Groundwater	GROUND WATER WELLS
		Groundwater	GROUNDWATER WELLS
		Groundwater	GROUNDWATER WELLS
		Groundwater	GROUNDWATER WELLS
		Groundwater	GROUNDWATER WELLS
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
CALLEGUAS MUNI WATER DIST	16,302.00	Other	PURCHASED WATER
		Other	PURCHASED WATER
		Other	PURCHASED WATER
		Other	PURCHASED WATER
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

2009

Service Area Population: 68,113

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
N/A		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
N/A		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,
N/A		

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Water Uses 2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	19,154.00	10,539.00			
Commercial	1,028.00	2,635.00			
Industrial	159.00	1,351.00			
Institutional	193.00	1,058.00			
Other	300.00	16.00			
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	19,154.00			300.00	
Commercial	1,028.00				
Industrial	159.00				
Institutional	193.00				
Other	300.00				
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Water Uses 2009

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2009

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name: PATRICK

Last Name: PILZ

Title: MANAGER, CONSERVATION & E

Phone: 619-435-7459

Email: patrick.pilz@amwater.com

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list: http://www.amwater.com/caaw/Customer-Service/voluntary-water-conservation-program.html

Enter a description:

Rule 14.1, aimed to reduce water use by voluntary actions
Drinking water in restaurants served only upon request, Lodging establishments must provide guests options to decline daily linen services
These measures implemented by the city of Thousand Oaks have helped California American Water sta

version 1.0 2009

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

2009 BMP 1.2 Water Loss Control

Did your agency complete a pre-screening system audit in 2009? Yes (●) No ( )

If yes, answer the following:

Determine metered sales in AF: 15,599.00

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc.

Determine system verifiable uses AF: 302.00

Determine total supply into the system in AF: 16,302.00

Does your agency keep necessary data on file to verify the answers above? Yes (●) No ( )

Did your agency complete a full-scale system water audit during 2009? Yes ( ) No (●)

Does your agency maintain in-house records of audit results or the completed AWWA worksheet for the completed audit which could be forwarded to CUWCC? Yes (●) No ( )

Did your agency operate a system leak detection program? Yes (●) No ( )

Comments:

version 1.0 2009

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ◉ No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 0

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ◉ Yes ○ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	19,154	19,154	19,154	Monthly	
Commericial	1,028	1,028	1,028	Monthly	
Industrial	159	159	159	Monthly	
Institutional	193	193	193	Monthly	
Other	300	300	300	Monthly	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 786

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org Enter the file name here e.g. WaterWastePreventionOrdinan

Web address(s) URL: comma-separated list Enter the URL to your documentation.

General Comments about BMP 1.3:

2009 version 1.0

The fields in red are required.

Primary contact:

Agency name: CALIFORNIA AMERICAN WATER

First name: PATRICK

Reporting unit name (District name): VENTURA

Last name: PILZ

Reporting unit number: 7008

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

2009

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Bloc		15,930,703.00	1,522,359.00
Uniform		3,719,229.00	340,598.00
Uniform		1,539,667.00	111,987.00
Uniform		1,774,208.00	125,423.00
Select a Rate S			
Select a Rate S			
Select a Rate S			

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (•) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			

Comments:

2009 version 1.0

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

View MOU

2009

BMP 2.1 Public Outreach - Retail Reporting

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☐

Number of Public Contacts	Public Information Programs
	Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets
	General water conservation information
	Website
	Landscape water conservation media campaigns
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ○ Yes ○ No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ☐

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	
	Select a type of media contact	

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.amwater.com/caaw

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

Did at least one Website Update take place during each quarter of the reporting year? ○ Yes ○ No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
PUBLIC INFOR	$20,000				

Comments:

To encourage conservation in Ventura County, California American Water engaged in a number of outreach methods. These included both targeted and blanket di

version 1.0 2009

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

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Reporting unit number: 7008

Primary contact:

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Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
PUBLIC OUTREACH	$142,726	

If yes, check the check box.

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ○ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ◉ Yes ○ No

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ◉ No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee? ○ Yes ○ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	
☐ Retail and wholesale outlet; name(s) and type(s) of programs:	

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

CUWCC

Link to FAQs

2009

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is your agency implementing school programs which can be counted to help another agency comply with this BMP? (•) Yes ( ) No

Enter Wholesaler Names, separated by commas: Metropolitan Water District

[ ] Materials meet state education framework requirements?

Description of Materials

[x] Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students

Number of students reached: 1,333

[ ] Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students

Number of Distribution

Annual budget for school education program: $20,000.00

Description of all other water supplier education programs

School Program Activities

Classroom presentations:

Number of presentations: 47 Number of attendees

Large group assemblies:

Number of presentations: Number of attendees:

Children's water festivals or other events:

Number of presentations: Number of attendees:

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: Number of attendees:

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description

Number distributed

Staffing children's booths at events & festivals:

Number of booths | Number of attendees

Water conservation contests such as poster and photo:

Description

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered | Total Funding

Teacher training workshops:

Number of presentations | Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips | Number of participants

College internships in water conservation offered:

Number of internships: 1 | Total funding: 5439

Career fairs/workshops:

Number of presentations | Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable) | Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs): 6190

Comments

version 1.0 2009

The fields in red are required.

Primary contact:

Agency name: CALIFORNIA AMERICAN WATER

First name: PATRICK

Division name (Reporting unit): VENTURA

Last name: PILZ

Reporting unit number: 7008

Email: patrick.pilz@amwater.com

WATER SOURCES

2010

Service Area Population: 60,000

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Calleguas Municipal Water District	15,165.60	Other	PURCHASED WATER
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

2010

Service Area Population: 60,000

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	19,146.00	9,749.36			
Commercial	1,022.00	2,765.00			
Industrial	165.00	1,418.65			
Other	494.00	988.66			
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Division name (Reporting unit): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Water Uses 2010

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

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Primary contact:

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Email: patrick.pilz@amwater.com

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Link to FAQs

2010

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name: PATRICK

Last Name: PILZ

Title: MANAGER, CONSERVATION & E

Phone: 619-435-7459

Email: patrick.pilz@amwater.com

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list: http://www.amwater.com/caaw/Customer-Service/voluntary-water-conservation-program.html

Enter a description: Rule 14.1, aimed to reduce water use by voluntary actions.
These measures implemented by the city of Thousand Oaks have helped California American Water stay under its water allocation

version 1.0 2010

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010 BMP 1.2 Water Loss Control

View MOU

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software (Yes / No)

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

AWWA Water Loss Audit 2010 - VN

Water Audit Validity Score from AWWA spreadsheet: 94

Agency Completed Training In The AWWA Water Audit Method (Yes / No)

Agency Completed Training In The Component Analysis Process (Yes / No)

Completed/Updated the Component Analysis (at least every 4 years)? (Yes / No)

Component Analysis Completed/Updated Date: 2010

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective (Yes / No)

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective (Yes / No)

Type of Program Activities Used to Detect Unreported Leaks

California American Water Ventura monitors water production and sales on a monthly basis and completes an annual report indentifying the total percent of unaccounted water loss

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

version 1.0

2010

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year:

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ◉ Yes ○ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	19,146	19,146	19,146	Monthly	284
Commericial	1,516	1,516	1,516	Monthly	62
Industrial	165	165	165	Monthly	11
Other	494	494	494	Monthly	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period

Feasibility Study

Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Comments:

2010 version 1.0

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC 2010

BMP 1.4 Retail Conservation Pricing

Link to FAQs

View MOU

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Increasing Bloc		14,252,661.00	1,613,500.00
Uniform		4,163,778.00	360,884.00
Uniform		1,446,269.00	118,654.00
Uniform		2,054,827.00	132,889.00
Select a Rate S			
Select a Rate S			
Select a Rate S			

Implementation Option (Conservation Pricing Option)

(•) Use Annual Revenue As Reported

( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service ( ) Yes (•) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			
Select a Rate S			

Comments:

2010 version 1.0

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER

Reporting unit name (District name): VENTURA

Reporting unit number: 7008

Primary contact:

First name: PATRICK

Last name: PILZ

Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
PUBLIC OUTREACH	$22,240	

If yes, check the check box.

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ○ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ◉ Yes ○ No

Describe the brand, theme or mascot.

Market Research

Have you sponsored or participated in market research to refine your message? ○ Yes ◉ No

Market Research Topic

Brand Message

Brand Mission Statement

Community Committees

Do you have a community conservation committee? ○ Yes ○ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description	

Partnering Programs - Partners

	Name	Type of Program
☐ CLCA?		
☐ Green Building Programs?		
☐ Master Gardeners?		
☐ Cooperative Extension?		
☐ Local Colleges?		
☐ Other		

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency

Comments:

The fields in red are required.

Agency name: CALIFORNIA AMERICAN WATER
Reporting unit name (District name): VENTURA
Reporting unit number: 7008

Primary contact:
First name: PATRICK
Last name: PILZ
Email: patrick.pilz@amwater.com

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is a wholesale agency implementing school programs which can be counted to help your agency comply with this BMP? (•) Yes ( ) No

Enter Wholesaler Names, separated by commas: Resource Action Program

[ ] Materials meet state education framework requirements?

Description of Materials

[ ] Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students

Number of students reached

[ ] Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students

Number of Distribution

Annual budget for school education program

Description of all other water supplier education programs

School Program Activities

Classroom presentations:

Number of presentations | Number of attendees

Large group assemblies:

Number of presentations | Number of attendees

Children's water festivals or other events:

Number of presentations | Number of attendees

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations | Number of attendees

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description

Number distributed

Staffing children's booths at events & festivals:

Number of booths | Number of attendees

Water conservation contests such as poster and photo:

Description

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered | Total Funding

Teacher training workshops:

Number of presentations | Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips | Number of participants

College internships in water conservation offered:

Number of internships: 2 | Total funding: 13,874

Career fairs/workshops:

Number of presentations | Number of attendees

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable) | Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs): 13,874

Comments

version 1.0 2010

APPENDIX D. 60 DAY NOTIFICATION LETTERS

CALIFORNIA
AMERICAN WATER

June 15, 2011

Scott Mitnick
City Manager
2100 Thousand Oaks Boulevard
Thousand Oaks, CA 91362

Subject: California American Water 2010 Urban Water Management Plan

Dear Mr. Mitnick:

California American Water is in the process of preparing its Ventura County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

This letter serves as your official notice of preparation and intent to adopt the UWMP. A draft of the UWMP will be available for review in early July 2011. Until that time, if you have any questions or comments regarding the Ventura County District UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Water Systems Consulting, Inc.
Attn. Daniel Heimel, Staff Engineer
3765 South Higuera St. Suite 102
San Luis Obispo, California 93401
(805) 457-8833 ext. 104
dheimel@wsc-inc.com

Sincerely,

Al Yanez
Operations Manager,
California American Water - Ventura County District

cc: Patrick Pilz (California American Water)
Spencer Waterman (Water Systems Consulting, Inc.)

CALIFORNIA
AMERICAN WATER

June 15, 2011

Michael Powers
County Executive Officer
2100 Thousand Oaks Boulevard
Thousand Oaks, CA 91362

Subject: California American Water 2010 Urban Water Management Plan

Dear Mr. Powers:

California American Water is in the process of preparing its Ventura County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

This letter serves as your official notice of preparation and intent to adopt the UWMP. A draft of the UWMP will be available for review in early July 2011. Until that time, if you have any questions or comments regarding the Ventura County District UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Water Systems Consulting, Inc.
Attn. Daniel Heimel, Staff Engineer
3765 South Higuera St. Suite 102
San Luis Obispo, California 93401
(805) 457-8833 ext. 104
dheimel@wsc-inc.com

Sincerely,

Al Yanez
Operations Manager,
California American Water - Ventura County District

cc: Patrick Pilz (California American Water)
Spencer Waterman (Water Systems Consulting, Inc

CALIFORNIA
AMERICAN WATER

June 15, 2011

Bruce Feng
City Manager
601 Carmen Drive
Camarillo, CA 93010

Subject: California American Water 2010 Urban Water Management Plan

Dear Mr. Feng:

California American Water is in the process of preparing its Ventura County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). The Act requires California American Water to notify cities and counties within its service areas that it is preparing its 2010 UWMP 60 days prior to holding a public hearing thereby encouraging public involvement and agency coordination. California American Water will notify you of the specific date, time, and location of this public hearing when finalized.

This letter serves as your official notice of preparation and intent to adopt the UWMP. A draft of the UWMP will be available for review in early July 2011. Until that time, if you have any questions or comments regarding the Ventura County District UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

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Attn. Daniel Heimel, Staff Engineer
3765 South Higuera St. Suite 102
San Luis Obispo, California 93401
(805) 457-8833 ext. 104
dheimel@wsc-inc.com

Sincerely,

Al Yanez
Operations Manager,
California American Water - Ventura County District

cc: Patrick Pilz (California American Water)
Spencer Waterman (Water Systems Consulting, Inc

APPENDIX E. PUBLIC REVIEW HEARING NOTICE

Certificate of Publication

Ad #283470

In Matter of Publication of:

Public Notice

State of California)
))§
County of Ventura)

I, **Maria Rodriguez**, hereby certify that the **Ventura County Star Newspaper** has been adjudged a newspaper of general circulation by the Superior Court of California, County of Ventura within the provisions of the Government Code of the State of California, printed in the City of Camarillo, for the County of Ventura, State of California; that I am a clerk of the printer of said paper; that the annexed clipping is a true printed copy and publishing in said newspaper on the following dates to wit:

Aug. 03, 10, 2011

I, Maria Rodriguez certify under penalty of perjury, that the foregoing is true and correct.

Dated this Aug. 10, 2011, in Camarillo, California, County of Ventura.

Maria Rodriguez
(Signature)

NOTICE OF PUBLIC HEARING
On California American Water's
Urban Water Management Plan

California American Water will hold a public hearing on Wednesday, August 17, 2011 on the final draft of the 2010 Urban Water Management Plan for its Ventura County District service area. This service area includes half of the city of Thousand Oaks and unincorporated portions of Ventura County. Copies of the plan will be available for public review and public comment will be accepted. The hearing will be held at 9:00 a.m. at the California American Water office located at 2439 West Hillcrest Drive, Newbury Park, CA 91320.
Publish: Aug. 3, 10, 2011 Ad No.283470

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Susan B. Mulligan
Calleguas Municipal Water District
2100 Olsen Road
Thousand Oaks, California 91360-6800

Subject: **California American Water Ventura County District 2010 Urban Water Management Plan**

Dear Ms. Mulligan:

California American Water is in the process of preparing its Ventura County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). California American Water is required by the Act to provide its demand projections to wholesale suppliers. The table shown below from the 2010 UWMP provides California American Water's projected demands for Calleguas Municipal Water District from 2010 through 2030.

Table3-11. Demand Projections Provided to Wholesale Suppliers, afy

Wholesaler	2010	2015	2020	2025	2030
CMWD	15,194	18,402	16,606	16,774	16,943

A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Wednesday, August 17, 2011 at 2439 West Hillcrest Drive, Newbury Park, CA 91320. This letter serves as your official notice of the UWMP public hearing and demand projections. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For more information regarding the Ventura County District 2010 UWMP, please contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Michael Powers
County Executive Officer
Ventura County
2100 Thousand Oaks Boulevard
Thousand Oaks, CA 91362

Subject: California American Water Ventura County District 2010 Urban Water Management Plan

Dear Mr. Powers:

California American Water is in the process of preparing its Ventura County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Wednesday, August 17, 2011 at 2439 West Hillcrest Drive, Newbury Park, CA 91320.

In the interest of agency coordination, this letter serves as your official notice of the UWMP public hearing. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

Your expertise and interest in this matter is requested to help us gather necessary information as part of our ongoing efforts to improve overall conservation performance in our Ventura County service district.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For more information regarding the Ventura County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Scott Mitnick
City Manager
City of Thousand Oaks
2100 Thousand Oaks Boulevard
Thousand Oaks, CA 91362

Subject: California American Water Ventura County District 2010 Urban Water Management Plan

Dear Mr. Mitnick:

California American Water is in the process of preparing its Ventura County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Wednesday, August 17, 2011 at 2439 West Hillcrest Drive, Newbury Park, CA 91320.

In the interest of agency coordination, this letter serves as your official notice of the UWMP public hearing. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

Your expertise and interest in this matter is requested to help us gather necessary information as part of our ongoing efforts to improve overall conservation performance in our Ventura County service district.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For more information regarding the Ventura County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Mr. Mark Watkins
Public Works Director
City of Thousand Oaks
2100 Thousand Oaks Boulevard
Thousand Oaks, CA 91362

Subject: California American Water Ventura County District 2010 Urban Water Management Plan

Dear Mr. Watkins:

California American Water is in the process of preparing its Ventura County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Wednesday, August 17, 2011 at 2439 West Hillcrest Drive, Newbury Park, CA 91320.

In the interest of agency coordination, this letter serves as your official notice of the UWMP public hearing. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

Your expertise and interest in this matter is requested to help us gather necessary information as part of our ongoing efforts to improve overall conservation performance in our Ventura County service district.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For more information regarding the Ventura County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

CALIFORNIA
AMERICAN WATER

August 4, 2011

Ms. Louise Helliwell
Conservation Manager
City of Thousand Oaks
2100 Thousand Oaks Boulevard
Thousand Oaks, CA 91362

Subject: California American Water Ventura County District 2010 Urban Water Management Plan

Dear Ms. Helliwell:

California American Water is in the process of preparing its Ventura County District 2010 Urban Water Management Plan (UWMP) as required by the Urban Water Management Planning Act (Act). A public hearing for the final draft of the UWMP will be held at 9:00 a.m. on Wednesday, August 17, 2011 at 2439 West Hillcrest Drive, Newbury Park, CA 91320.

In the interest of agency coordination, this letter serves as your official notice of the UWMP public hearing. A draft of the UWMP is now available for review at our office or online at www.californaamwater.com.

Your expertise and interest in this matter is requested to help us gather necessary information as part of our ongoing efforts to improve overall conservation performance in our Ventura County service district.

If you or a member of your agency plans on attending the public hearing please RSVP by Friday, August 12. To confirm your attendance please contact Brian Barreto, California American Water's external affairs manager at 626-614-2542.

For more information regarding the Ventura County District 2010 UWMP, please feel free to contact me at 626-614-2517 or via email at mark.reifer@amwater.com.

Sincerely,

Mark Reifer
Planning Engineer
California American Water

cc: Spencer Waterman, Water Systems Consulting, Inc.

APPENDIX F. ADOPTION RESOLUTION

CALIFORNIA
AMERICAN WATER

January 9, 2012

Attention: Coordinator, Urban Water Management Plans
Department of Water Resources
Statewide Integrated Water Management
Water Use and Efficiency Branch
901 P Street
Sacramento, CA 95814

Subject: Adoption of California American Water's Southern Division - Ventura County District 2010 Urban Water Management Plan

To Whom It May Concern:

This letter shall confirm that California American Water Company ("California American Water") has adopted its 2010 Urban Water Management Plan for the Southern Division - Ventura County District. The Urban Water Management Planning Act ("Act"), codified in California Water Code Sections 10610 through 10656, requires an urban water supplier, such as California American Water, to prepare and adopt an urban water management plan ("UWMP"). In accordance with the Act, California American Water is proud to submit its 2010 UWMP to the California Department of Water Resources ("DWR") for review.

Sincerely,

Richard C. Svindland
Vice President - Engineering
California American Water

APPENDIX G. DEMAND PROJECTIONS METHODOLOGY

Demand projections were developed by applying the following methodology:

1. **Calculate SB7 Baseline and Targets.** WSC calculated the baseline, compliance, interim target, and target per capita water use for the District in compliance with SB7 requirements. The Per Capita Water Use Technical Memorandum describes how these per capita numbers were calculated (see Appendix A).
2. **Estimate population growth rates for each service area.** WSC calculated population projections and annual growth rates for each service area based on SCAG projections:
    a. SCAG provided a database of population projections up to 2030 in Excel format. The population projections years were 2010, 2015, 2020, 2025, and 2030. The database assigns population projections to each unique Census tract. The District's service areas overlie approximately 24 tracts. The tracts were intersected with District's service area boundaries using GIS.
    b. The next step involved calculating the population per area for each tract area and calculating the amount of acres in each tract that were overlapped by the District's service area boundary. The tract population per area factor calculated for each MGRA was applied to the amount of area in each tract overlapped by the District's service area.
    c. Then, the projections for the District were interpolated to provide a population projection for every year between 2011 and 2030.
    d. Lastly, an annual growth rate was calculated for each year for the District.
3. **Estimate 2010 population.** WSC utilized population data from the 2010 census, to the block level, and intersected these data with District's Water service area boundaries to calculate population in the District.
4. **Develop population projections through 2030.** WSC applied the growth rates calculated in step 2 to the 2010 population to calculate annual population estimates through 2030 for the District.
5. **Develop total demand projections.** WSC applied the Interim target gpcd to the projected population in 2015 to estimate District total demand. WSC applied the target gpcd to the estimated projected population in 2020, 2025 and 2030 to estimate District total demand. The target gpcd for the District was calculated to meet SB 7 compliance. Table H-1 shows the current and projected gpcd for the District.

Table H-1. Actual and Projected GPCD for the District

	Actual GPCD	Projected GPCD			
	2010	2015	2020	2025	2030
District	218	262	234	234	234

6. **Apportion total demand to DWR customer categories.** WSC established the amount of connections per type of use and the associated deliveries per type of use in 2010 based on California American Water records (2010 customer database and 2010 MD Operating Report). The percentage of each DWR customer category were calculated based on the customer database information, by dividing the number of connections or volume delivered in each category by the total number of connections or volume delivered. These percentages were then applied to the total customer connections and total volume data from the MD Operating Reports. The total number of connections for 2015-2030 was estimated by applying the annual population growth rates. The volume of water deliveries by connection type for 2015-2030 was calculated by multiplying the volume by connection type in 2010 by the total District percentage increase or decrease in water deliveries for each year calculated based on gpcd. This essentially distributes the allowed increase or required decrease in water usage among connection types based on 2010 demand by connection type.

APPENDIX H. CPUC'S RULE NO. 14.1

Schedule No. 14.1-VL

STAGED WATER CONSERVATION PLAN
VILLAGE DISTRICT

A. APPLICABILITY (N)

1. This schedule applies to all water customers served under all tariff rate schedules authorized by the Commission for the Village District of California-American Water Company. It is only effective in times of mandatory conservation, as required by Rule No. 14.1-SD, and only for the period noted in the Special Conditions section below.
2. This schedule shall remain dormant until a specific stage is activated by Commission authorization of a Tier 1 advice letter.
3. When a particular stage of this schedule is activated, the period over which it shall be effective will be added to tariff language.

B. TERRITORY

This rule is applicable within the Village District of California-American Water Company. All others served by California-American Water Company are excluded from this particular tariff, but are included in separate and distinct Water Conservation Plans.

C. STAGES

1. The Permanent water conservation requirements established in Rule 14.1-SD Section D are in effect at all times and reinforcement of them will be the initial response when water supplied to the utility is reduced by 0%-10%.
2. Stage 1 – Mandatory Water Conservation - Water supply is reduced 10.01%-20% or water restrictions under Permanent water conservation have not been effective in reducing water usage to prescribed level.
3. Stage 2 – Mandatory Water Conservation - Water supply is reduced 20.01%-30% or water restrictions at Stage 1 have not been effective in reducing water usage to prescribed level.
4. Stage 3 – Mandatory Water Conservation - Water supply is reduced 30.01% or more or water restrictions at Stage 2 have not been effective in reducing water usage to prescribed level.

D. WATER USE VIOLATION FINE

1. When a stage of this schedule has been activated by Commission authorization, the water use restrictions of the conservation program in Sections D, F, G and H of Rule 14.1-SD as applicable for each Stage become mandatory and are listed in the Special Condition of this tariff. If the Utility determines that a customer is violating the water usage restrictions, as outlined in Rule No. 14.1-SD and the Special Conditions below, the customer will be subject to the following fine structure:

a. First offense:	Written warning, including explanation of penalty for subsequent offense.
b. Second offense (of the same restriction):	Written warning, including explanation of penalty for subsequent offense and $100 fine.
c. Third offense (of the same restriction):	Installation of flow restrictor, and written warning, including explanation of penalty for subsequent offense.

(N)

(continued)

Schedule No. 14.1-VL (Continued)

STAGED WATER CONSERVATION PLAN
VILLAGE DISTRICT

D. WATER USE VIOLATION FINE (Continued) (N)

2. Offenses for separate water use restrictions will each start at the warning stage.

3. The water use violation fine is in addition to the regular rate schedule charges.

E. FLOW RESTRICTOR REMOVAL CHARGE

The charge for removal of a flow-restricting device shall be:

Connection Size	Removal Charges
5/8" to 1"	$150.00
1-1/2" to 2	$200.00
3" and larger	Actual Cost

F. SPECIAL CONDITIONS

1. The Tier 1 advice letter requesting activation of any stage of Schedule 14.1 shall include documentation of the overall water shortage justifying activation of that particular stage.

2. This tariff schedule shall remain in effect until the utility files a Tier 1 advice letter to deactivate specific stage of mandatory conservation and such is authorized by Commission.

3. Water use violation fines must be separately identified on each bill.

4. All bills are subject to the reimbursement fee set forth on Schedule No. UF.

5. All monies collected by the utility through water use violation fines shall not be accounted for as income. All expenses incurred by utility to implement Rule 14.1-SD and Schedule 14.1-VL that have not been considered in a General Rate Case or other proceeding, shall be recoverable by utility if determined to be reasonable by Commission. These monies shall be accumulated by the utility in a separate memorandum account for disposition as directed or authorized from time to time by the Commission.

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to:

   a. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

   b. Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that exclusively use very low-flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour and weather based controllers or stream rotor sprinklers that meet a 70% efficiency standard. (N)

(continued)

Schedule No. 14.1-VL (Continued)

STAGED WATER CONSERVATION PLAN
VILLAGE DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to: (continued)

   c. No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

   d. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

   e. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by California-American Water Company unless other arrangements are made with California-American Water Company.

   f. Re-circulating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.

   g. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

   h. Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested. Establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

   i. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

   j. No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service. (N)

(continued)

Schedule No. 14.1-VL (Continued)

STAGED WATER CONSERVATION PLAN
VILLAGE DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

6. No customer shall use utility-supplied water in Stage 1 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to: (continued)

k. No Installation of Non-re-circulating Water Systems in Commercial Car Wash and Laundry Systems: Installation of non-re-circulating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

l. Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, including but not limited to restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

m. Use of potable water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public is prohibited;

n. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used is prohibited.

o. Use of potable water for construction purposes unless no other source of water or other method can be used is prohibited;

p. Use of potable water for street cleaning is prohibited;

q. Operation of commercial car washes without recycling at least 50% of the potable water used per cycle is prohibited; and

r. Use of potable water to flush hydrants, except where required for public health or safety is prohibited.

s. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week on a schedule established and posted by the California-American Water Company. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the California-American Water Company. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system. (N)

(continued)

Schedule No. 14.1-VL (Continued)

STAGED WATER CONSERVATION PLAN
VILLAGE DISTRICT

(N)

F. SPECIAL CONDITIONS (Continued)

7. No customer shall use utility-supplied water in Stage 2 Mandatory Conservation for non-essential or unauthorized uses, including but not limited to those above in Stage 1 and the following:

   a. Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week on a schedule established and posted by California-American Water Company. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by California-American Water Company. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for the express purpose of adjusting or repairing an irrigation system.

   b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the California-American Water Company unless other arrangements are made with the California-American Water Company.

   c. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life, and have been actively managed within the water feature prior to declaration of a supply shortage level under this Rule.

   d. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, by high pressure/low volume wash systems, or at a commercial car washing facility that utilizes a re-circulating water system to capture or reuse water.

   e. Limits on Filling Residential Swimming Pools & Spas: Re-filling and initial filling of residential swimming pools or outdoor spas with potable water is prohibited, except to maintain required operating levels of existing pools and spas. (N)

(continued)

Schedule No. 14.1-VL (Continued)

STAGED WATER CONSERVATION PLAN
VILLAGE DISTRICT

F. SPECIAL CONDITIONS (Continued) (N)

8. No customer shall use utility-supplied water in Stage 3 Mandatory Water Conservation for non-essential or unauthorized uses, including but not limited to those above in Stages 1 and 2 and the following:

   a. No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless California-American Water Company has determined that recycled water is available and may be applied to the use:

      i. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

      ii. Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;

      iii. Maintenance of existing landscape necessary for fire protection;

      iv. Maintenance of existing landscape for soil erosion control;

      v. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

      vi. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule established in Section G. 2. a. and time restrictions in Section D. 1. of Rule 14.1-SD;

      vii. Actively irrigated environmental mitigation projects.

   b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by California-American Water Company unless other arrangements are made with California-American Water Company.

(N)

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